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

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

LAW

VOLUME 1 OF 3

BID BOOKLET

FOR FURNISHING ALL LABOR AND MATERIALS NECESSARY AND REQUIRED FOR:

PROJECT ID: P-USTA1

**USTA UN AVENUE
CONNECTOR ROAD
RELOCATION**

**MERIDIAN ROAD – FROM EXISTING CONNECTOR ROAD TO QUEENS MUSEUM OF ART
NEW CONNECTOR ROAD – FROM MERIDIAN ROAD TO UNITED NATIONS AVENUE N**

INCLUDING MERIDIAN ROAD WIDENING, NEW CONNECTOR ROAD, SEWER, WATER MAIN, CATCH BASIN, ELECTRICAL, TELECOMMUNICATION, STREET LIGHTING, AND LANDSCAPE WORK

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

FOR THE DEPARTMENT OF PARKS AND RECREATION
PREPARED BY
PARSONS BRINCKERHOFF

AUGUST 12, 2013

14-025

NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

DAVID J. BURNEY, FAIA
Commissioner

ERIC C. MACFARLANE, P.E.
Deputy Commissioner
Infrastructure

NTP – HIGHWAY & NON-EMERGENCY DEP PROJECTS

RETURN RECEIPT REQUESTED CERTIFIED MAIL #7010 1670 0000 0473 7618

January 21, 2014

NY ASPHALT INC
73 INDUSTRIAL LOOP
STATEN ISLAND, NY 10309

CONTRACT #: **20141414056**
PIN #: **8502014HW0007C**
LEAD FMS ID #: **P-USTA1**
BOROUGH OF: **Queens**
PROJECT NAME: **USTA UN AVENUE CONNECTOR ROAD RELOCATION**

Dear Contractor:

Transmitted herewith is your duly executed contract for the above-mentioned project for furnishing all labor and materials necessary and required together with all work incidental thereto.

You are hereby directed to commence work on the above-referenced project as of January 22, 2014. The date to complete all of the work is June 20, 2015, a total of 515 consecutive calendar days (CCDs) in accordance with the terms of the contract.

This contract was awarded to you on December 9, 2013 and registered by the Comptroller of The City of New York on January 17, 2014 in the amount of $8,405,200.00.

This notice to proceed is conditional and may be rescinded upon failure to submit, if applicable, all required original certificates and/or policies of insurance to the Insurance and Risk Management Unit at least ten (10) business days prior to the commencement of all work. If you have not done so, please submit the original certificates to:

ORDER TO COMMENCE WORK
PIN: 8502014HW0007C, CONTRACT NUMBER: 20141414056
NY ASPHALT INC

Insurance and Risk Management Unit
Office of the Agency Chief Contracting Officer
30-30 Thomson Avenue, 4th Floor
Long Island City, NY 11101

You are required to obtain street opening permits from DOT for this project. The attached letter provides the information you will need to present to the DOT permit office to obtain these permits at no cost to you. Please be advised that all permits must be in place prior to the commencement of work.

Upon receipt of this order, please contact Mr. Lambert Monah, P.E., Director of Construction Bronx / North Queens, New York City Department of Design and Construction, at (718)-391-2469.

Also, if subcontractor participation goals have been established for this contract, you must, within 30 days of the date of this letter, submit all subcontractors/subconsultants on the enclosed form ("Initial List of Subcontractors/Subconsultants"). You should also include the following:

a) MWBE Contractor Participation Letter (attached)
b) Copy of the MWBE Certification Letter (attached)
c) Copy of the Subcontractor Agreement and/or Purchase Order
d) Request for Approval of Subcontractors (copy only)

Please return completed forms to:

NYC Department of Design + Construction
Office of Contract Opportunity
30-30 Thomson Avenue- 4th Floor
Long Island City, NY 11101
Attn: Jessica Lavides

You are strongly advised to submit these documents as early as possible so as not to delay the subcontractor approval review process. A list of certified M/WBE firms may be obtained from the Department of Small Business Services (SBS) website at www.nyc.gov/buycertified or by emailing SBS at MWBE@sbs.nyc.gov, or by calling the SBS certification hotline at (212) 513-6311 or by visiting or writing SBS at 110 William Street, New York, New York 10038, 7th Floor. Eligible firms that have not yet been certified may contact SBS in order to seek certification. **FAILURE to submit the LOS within 30 days of the date of this letter will be reflected in the contractor's overall performance evaluation.**

Very truly yours,

Eric C. Macfarlane, P.E.
Deputy Commissioner

NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

DAVID J. BURNEY, FAIA
Commissioner

December 09, 2013

CERTIFIED MAIL - RETURN RECEIPT REQUEST
NY ASPHALT INC
73 Industrial Loop
Staten Island, NY 10309

RE: FMS ID: P-USTA1
E-PIN: 85014B0032001
DDC PIN: 8502014HW0007C
USTA UN AVENUE CONNECTOR ROAD
RELOCATION - BOROUGH OF QUEENS
NOTICE OF AWARD

Dear Contractor:

You are hereby awarded the above referenced contract based upon your bid in the amount of $8,405,200.00 submitted at the bid opening on October 10, 2013. Within ten (10) days of your receipt of this notice of award, you are required to take the actions set forth in Paragraphs (1) through (3) below. For your convenience, attached please find a copy of Schedule A of the General Conditions to the Contract, which sets forth the types and amounts of insurance coverage required for this contract.

(1) Execute four copies of the Agreement in the Contracts Unit, 30-30 Thomson Avenue, 1st Floor, Long Island City, New York (IDCNY Building). A Commissioner of Deeds will be available to witness and notarize your signature. The Agreement must be signed by an officer of the corporation or a partner of the firm.

(2) Submit to the Contracts Unit four properly executed performance and payment bonds. If required for this contract, copies of performance and payment bonds are attached.

(3) Submit to the Contracts Unit the following insurance documentation: (a) original certificate of insurance for general liability in the amount required by Schedule A, and (b) original certificates of insurance or other proof of coverage for workers' compensation and disability benefits, as required by New York State Law. The insurance documentation specified in this paragraph is required for registration of the contract with the Comptroller's Office.

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

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

Sincerely,

Lorraine Holley

Lorraine Holley
DACCO

Bid Tab

Revised

Description **USTA UN AVENUE CONNECTOR ROAD RELOCATION - BOROUGH OF QUEENS**

Bid Date	10/10/2013	**FMS ID**	P-USTA1
Estimated Cost	$11,823,183.00	**DEP Supervised**	No
Bid Security	2% of Total Bid Price	**PLA**	No
Time Allowed	365 CCD	**Contract Manager**	Giovanni Matos
Addendum	9	**Project Manager**	White, Shani
PIN	8502014HW0007C	**E-PIN**	85014B0032
Selective Bidding	☐Yes ☒No	**Consultant**	Parsons Brinckerhoff

Bid Rank	Vendor	Bid Amount	Security Type
1	NY ASPHALT INC	*$8,405,200.00	Bond
2	PERFETTO CONTRACTING CO. INC.	$8,665,595.68	Bond
3	C.A.C. INDUSTRIES, INC.	$9,145,221.00	Bond
4	LAWS CONSTRUCTION CORP.	$10,176,875.00	Bond
5	RESTANI CONSTRUCTION CORP.	$10,709,333.00	Bond
6	PAUL J. SCARIANO INC.	$10,988,829.00	Bond
7	BOVE INDUSTRIES, INC.	$11,186,575.00	Bond
8	FGI CORP.	$11,270,699.00	Bond
9	EIC ASSOCIATES, INC.	$11,302,060.90	Bond
10	INTER CONTRACTING CORP.	$11,319,711.01	Bond
11	P & T II CONTRACTING CORP.	$11,778,922.67	Bond
12	JR CRUZ CORP.	$11,950,950.00	Bond
13	EASTERN EXCAVATION INC.	$12,706,805.65	Bond
14	PADILLA CONSTRUCTION SERVICES, INC	$14,412,994.00	Bond

Recorder: Phyllis Lopez – ext. 1282

Approver: Ellen Williams

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

1

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

PROJECT ID: P-USTA1

USTA UN AVENUE
CONNECTOR ROAD
RELOCATION

MERIDIAN ROAD – FROM EXISTING CONNECTOR ROAD TO QUEENS MUSEUM OF ART
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INCLUDING MERIDIAN ROAD WIDENING, NEW CONNECTOR ROAD, SEWER, WATER MAIN, CATCH BASIN, ELECTRICAL, TELECOMMUNICATION, STREET LIGHTING, AND LANDSCAPE WORK

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

Name of Bidder: NY ASPHALT, INC.

Date of Bid Opening: OCTOBER 10, 2013

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

Place of Business of Bidder: 73 INDUSTRIAL LOOP STATEN ISLAND NY 10309

Bidder's Telephone Number: 718-966-6466 Fax Number: 718-966-6544

Bidder's E-Mail Address: mbocchino@nyasphalt.com + ddas@nyasphalt.com

Residence of Bidder (If Individual): N/A

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

Names of Partners	Residence of Partners
N/A	

If Bidder is a Corporation, fill in the following blanks:
Organized under the laws of the State of NEW YORK

Name and Home Address of President: MICHAEL THOMPSON 470 BUTLER BLVD. STATEN ISLAND NY

Name and Home Address of ~~Secretary~~ V.P.: AMANDA GLANZ 1400 MOUNTAINTOP RD. BRIDGEWATER NJ

Name and Home Address of Treasurer: n/a

BID FORM

The above-named Bidder affirms and declares:

1. The said bidder is of lawful age and the only one interested in this bid; and no person, firm or corporation other than hereinbefore named has any interest in this bid, or in the Contract proposed to be taken.

2. By submission of this bid, each bidder and each person signing on behalf of any bidder certifies, and in the case of a joint bid each party thereto certifies as to its own organization, under penalty of perjury, that to the best of its knowledge and belief: (1) the prices in this bid have been arrived at independently without collusion, consultation, communication or agreement, for the purpose of restricting competition, as to any matter relating to such prices with any other bidder or with any competitor; (2) unless otherwise required by law, the prices quoted in this bid have not been knowingly disclosed by the bidder and will not knowingly be disclosed by the bidder prior to opening, directly or indirectly, to any other bidder or to any competitor; and (3) No attempt has been made or will be made by the bidder to induce any other person, partnership or corporation to submit or not to submit a bid for the purpose of restricting competition.

3. No councilman or other officer or employee or person whose salary is payable in whole or in part from the City Treasury is directly or indirectly interested in this bid, or in the supplies, materials, equipment, work or labor to which it relates, or in any of the profits thereof.

4. The bidder is not in arrears to the City of New York upon debt or contract or taxes, and is not a defaulter, as surety or otherwise, upon any obligation of the City of New York, and has not been declared not responsible, or disqualified, by any agency of the City of New York or State of New York, nor is there any proceeding pending relating to the responsibility or qualification of the bidder to receive public contracts except as set forth on the Affirmation included as page C-6 of this Bid Booklet.

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

5. The bidder, as an individual, or as a member, partner, director or officer of the bidder, if the same be a firm, partnership or corporation, executes this document expressly warranting and representing that should this bid be accepted by the City and the Contract awarded to him, he and his subcontractors engaged in the performance: (1) will comply with the provisions of Section 6-108 of the Administrative Code of the City of New York and the non-discrimination provisions of Section 220a of the New York State Labor Law, as more expressly and in detail set forth in the Agreement; (2) will comply with Section 6-109 of the Administrative Code of the City of New York in relation to minimum wages and other stipulations as more expressly and in detail set forth in the Agreement; (3) have complied with the provisions of the aforesaid laws since their respective effective dates, and (4) will post notices to be furnished by the City, setting forth the requirements of the aforesaid laws in prominent and conspicuous places in each and every plant, factory, building and structure where employees engaged in the performance of the Contract can readily view it, and will continue to keep such notices posted until the supplies, materials and equipment, or work labor and services required to be furnished or rendered by the Contractor have been finally accepted by the City. In the event of any breach or violation of the foregoing, the Contractor may be subject to damages, liquidated or otherwise, cancellation of the Contract and suspension as a bidder for a period of three years. (The words, "the bidder", "he", "his", and "him" where used herein shall mean the individual bidder, firm, partnership or corporation executing this bid).

6. Compliance Report

The bidder, as an individual, or as a member, partner, director, or officer of the bidder, if the same be a firm, partnership, or corporation, (1) represents that his attention has been specifically drawn to Executive Order No. 50, dated, April 25, 1980, on Equal Employment Compliance of the contract, and (2) warrants that he will comply with the provisions of Executive Order No. 50. The Employment Report must be submitted as part of the bid.

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

7. By submission of this bid, the bidder certifies that it now has and will continue to have the financial capability to fully perform the work required for this contract. Any award of this contract will be made in reliance upon such certification. Upon request therefor, the bidder will submit written verification of such financial capability in a form that is acceptable to the department.

8. In accordance with Section 165 of the State Finance Law, the bidder agrees that tropical hardwoods, as defined in Section 165 of the State Finance Law, shall not be utilized in the performance of this Contract, except as the same are permitted by the foregoing provision of law.

9. The bidder has visited and examined the site of the work and has carefully examined the Contract in the form approved by the Corporation Counsel, and will execute the Contract and perform all its items, covenants and conditions, and will provide, furnish and deliver all the work, materials, supplies, tools and appliances for all labor and materials necessary or required for the hereinafter named work, all in strict conformity with the Contract, for the prices set forth in the Bid Schedule:

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

Section V: Vendor Certification and Required Affirmations:

I hereby:

1) acknowledge my understanding of the M/WBE participation requirements as set forth in this Contract and the pertinent provisions of Section 6-129 of the Administrative Code of the City of New York and the rules promulgated thereunder;
2) affirm that the information supplied in support of the M/WBE Utilization Plan is true and correct;
3) agree, if awarded this Contract, to comply with the M/WBE participation requirements of this Contract, the pertinent provisions of Section 6-129, and the rules promulgated thereunder, all of which shall be deemed to be material terms of this Contract;
4) agree and affirm that it is a material term of this Contract that the Vendor will award the total dollar value of the M/WBE Participation Goals to certified MBEs and/or WBEs, unless a full waiver is obtained or such goals are modified by the Agency; and
5) agree and affirm, if awarded this Contract, to make all reasonable, good faith efforts to meet the M/WBE Participation Goals, or If a partial waiver is obtained or such goals are modified by the Agency, to meet the modified Participation Goals by soliciting and obtaining the participation of certified MBE and/or WBE firms.

(NO TEXT ON THIS PAGE)

BID FORM

PROJECT ID. P-USTA1

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

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

$ 8,405,099
10/10/13 P.S.

BIDDER'S SIGNATURE AND AFFIDAVIT

Bidder: NY ASPHALT, INC.

By: _____
(Signature of Partner or corporate officer)

_____
Secretary of Corporate Bidder

Attest:
(Corporate Seal)

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

BID FORM (TO BE NOTARIZED)

AFFIDAVIT WHERE BIDDER IS AN INDIVIDUAL

STATE OF NEW YORK, COUNTY OF_____ ss:

_____ being duly sworn says:

I am the person described in and who executed the foregoing bid, and the several matters therein stated are in all respects true.

_____

(Signature of the person who signed the Bid)

Subscribed and sworn to before me this

_____ day of_____, _____

_____

Notary Public

AFFIDAVIT WHERE BIDDER IS A PARTNERSHIP

STATE OF NEW YORK, COUNTY OF_____ ss:

_____ being duly sworn says:

I am a member of _____ the firm described in and which executed the foregoing bid. I subscribed the name of the firm thereto on behalf of the firm, and the several matters therein stated are in all respects true.

_____

(Signature of Partner who signed the Bid)

Subscribed and sworn to before me this

_____ day of_____, _____

_____

Notary Public

AFFIDAVIT WHERE BIDDER IS A CORPORATION

STATE OF NEW YORK, COUNTY OF RICHMOND ss:

MICHAEL THOMPSON being duly sworn says:

I am the PRESIDENT of the above named corporation whose name is subscribed to and which executed the foregoing bid. I reside at 470 BUTLER BLVD. STATEN ISLAND NY.

I have knowledge of the several matters therein stated, and they are in all respects true.

_____

(Signature of Corporate Officer who signed the Bid)

Subscribed and sworn to before me this

10 day of Oct, 2013

_____

Notary Public

GINA M. SCACCIO
Notary Public, State of New York
No. 01SC6217947
Qualified in King County
Commission Expires 02/22/2014

AFFIRMATION

The undersigned bidder affirms and declares that said bidder is not in arrears to the City of New York upon debt, contract or taxes and is not a defaulter, as surety or otherwise, upon obligation to the City of New York, and has not been declared not responsible, or disqualified, by any agency of the City of New York, nor is there any proceeding pending relating to the responsibility or qualification of the bidder to receive public contracts except: NONE

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

Full Name of Bidder: NY ASPHALT, INC.
Address: 73 INDUSTRIAL Loop
City STATEN ISLAND State NY Zip Code 10309

CHECK ONE BOX AND INCLUDE APPROPRIATE NUMBER:

/__/ A - Individual or Sole Proprietorship*
SOCIAL SECURITY NUMBER

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

/✓/ C- Corporation
EMPLOYER IDENTIFICATION NUMBER
13-4110973

By: _____
Signature

Title: PRESIDENT

If a corporation, place seal here

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

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

(NO TEXT ON THIS PAGE)

BID SCHEDULE

NOTICE TO BIDDERS

Items listed in this Bid Schedule which have one (1) digit followed by a decimal (e.g. 4.13 DE), except for items beginning with the number "8.01", shall comply with the requirements of the corresponding numerical Sections of the NYCDOT Standard Highway Specifications, dated November 1, 2010, and as amended by Addendum No. 1, herein Volume 3 of 3.

Items listed in this Bid Schedule beginning with the number "8.01" followed by a letter (e.g. 8.01 C2) shall comply with the requirements of the corresponding numerical Sections of the DDC Specifications for Handling, Transportation and Disposal of Nonhazardous and Potentially Hazardous Contaminated Materials contained in Addendum No. 5, herein Volume 3 of 3.

Items listed in this Bid Schedule which have two (2) digits beginning with the number "5" followed by a decimal (e.g. 51.41S001) shall comply with the requirements of the New York City Department of Environmental Protection (NYCDEP) Standard Sewer Specifications, dated August 1, 2009, and as amended by Addendum No. 2, herein Volume 3 of 3.

Items listed in the Bid Schedule which have two (2) digits beginning with the number "6" followed by a decimal (e.g. 60.11R520) shall comply with the requirements of the New York City Department of Environmental Protection (NYCDEP) Standard Water Main Specifications, dated August 1, 2009, and as amended by Addendum No. 2, herein Volume 3 of 3.

Items listed in the Bid Schedule which have two (2) digits beginning with the number "7" followed by a decimal (e.g. 70.13 MN), shall comply with the requirements of the New York City Department of Environmental Protection (NYCDEP) Standard Sewer Specifications, dated August 1, 2009, or the NYCDEP Standard Water Main Specifications, dated August 1, 2009, as applicable, and as amended by Addendum No. 2, herein Volume 3 of 3.

Items listed in this Bid Schedule beginning with the prefix "E" and "EW-" (e.g. E260543 A, EW-900T) shall comply with the requirements of the corresponding alphanumeric Sections incorporated in Addendum No. 4, herein Volume 3 of 3.

Item listed in this Bid Schedule beginning with the letter "HW-" (e.g. HW-900H) shall comply with the requirements of the Section HW-900H incorporated in Addendum No. 1, herein Volume 3 of 3.

Items listed in this Bid Schedule with the prefix "PK-" (e.g. PK-34) are modified version of New York City Department of Parks and Recreation (NYCDPR) Items and shall comply with the requirements of the corresponding alphanumeric Sections incorporated in Addendum No. 3, herein Volume 3 of 3. However all, references therein to the "Landscape Architect", "Project Arborist", "Resident Engineer", "Director of the Arboriculture and Horticulture", or any of the officials of Department of the Parks and Recreation, shall be deemed to mean the "Engineer". Where any reference is made on the Contract Drawings or the specifications in Addendum No. 3, herein Volume 3 of 3, to NYCDPR's Standard Drawings and Specifications (e.g. Section C), the Contractor shall be required to obtain for their use such referenced documents from the NYCDPR. The NYCDPR Specifications described above neither imply the NYCDPR's involvement in any testing and approval of materials, nor in the supervision of construction.

Items listed in this Bid Schedule beginning with the prefix "SL-" (e.g. SL-21.09.01) are Street Lighting Items, less the prefix, which shall be done in accordance with the requirements of Sub-Section 1.06.23.(D) and Section 1.06.49 in the Standard Highway Specifications.

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

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 several classes of work 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 5 shall be the product of the Estimated Quantity in Column 2 times the Unit Price Bid in Column 4.

(5) Prospective bidders must examine the Bid Schedule carefully and, before bidding, must advise the Commissioner, in writing, if any pages are missing, and must request that such missing pages be furnished them. The pages of this Bid Schedule are numbered consecutively, as follows: B - 3 through B - 61

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

Contract PIN 8502014HW0007C
Project ID P-USTA1

COL. 1 ITEM NUMBER (SEQUENCE NO.)	COL. 2 ENGINEER'S ESTIMATE OF QUANTITIES	COL. 3 CLASSIFICATIONS	COL. 4 UNIT PRICES (IN FIGURES) DOLLARS	CTS	COL. 5 EXTENDED AMOUNTS (IN FIGURES) DOLLARS	CTS
4.02 CB (001)	122.0 TONS	ASPHALTIC CONCRETE MIXTURE	$ 150	00	$ 18,300	00
4.02 I1-6 (002)	5,843.0 S.Y.	ASPHALTIC MACADAM BASE COURSE, TYPE I-1 MIX, 6" THICK	$ 34	00	$ 198,662	00
4.02 I4-2 (003)	537.0 S.Y.	ASPHALTIC CONCRETE WEARING COURSE, TYPE I-4 MIX, 2" THICK	$ 15	00	$ 8,055	00
4.02 I4-3 (004)	5,843.0 S.Y.	ASPHALTIC CONCRETE WEARING COURSE, TYPE I-4 MIX, 3" THICK	$ 23	00	$ 134,389	00

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

Contract PIN 8502014HW0007C
Project ID P-USTA1

COL. 1 ITEM NUMBER (SEQUENCE NO.)	COL. 2 ENGINEER'S ESTIMATE OF QUANTITIES	COL. 3 CLASSIFICATIONS	COL. 4 UNIT PRICES (IN FIGURES) DOLLARS	CTS	COL. 5 EXTENDED AMOUNTS (IN FIGURES) DOLLARS	CTS
4.08 AJ (005)	3,130.0 L.F.	CONCRETE CURB (27" DEEP)	$ 42	00	$ 131,460	00
4.11 CA (006)	275.0 C.Y.	FILL, PLACE MEASUREMENT	$ 75	00	$ 20,625	00
4.13 AAS (007)	836.0 S.F.	4" CONCRETE SIDEWALK (UNPIGMENTED)	$ 10	00	$ 8,360	00
4.13 BAS (008)	452.0 S.F.	7" CONCRETE SIDEWALK (UNPIGMENTED)	$ 14	00	$ 6,328	00

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

Contract PIN 8502014HW0007C
Project ID P-USTA1

COL. 1 ITEM NUMBER (SEQUENCE NO.)	COL. 2 ENGINEER'S ESTIMATE OF QUANTITIES	COL. 3 CLASSIFICATIONS	COL. 4 UNIT PRICES (IN FIGURES) DOLLARS	CTS	COL. 5 EXTENDED AMOUNTS (IN FIGURES) DOLLARS	CTS
4.13 BR (009)	530.0 S.F.	7" REINFORCED CONCRETE SIDEWALK (UNPIGMENTED)	$ 18	00	$ 9,540	00
4.13 DE (010)	110.0 S.F.	EMBEDDED PREFORMED DETECTABLE WARNING UNITS	$ 62	00	$ 6,820	00
4.14 (011)	368.0 LBS.	STEEL REINFORCEMENT BARS	$ 10	00	$ 3,680	00
50.21M3C024D (012)	241.0 L.F.	24" R.C.P. CLASS III STORM SEWER, ON CONCRETE CRADLE	$ 350	00	$ 84,350	00

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

Contract PIN 8502014HW0007C
Project ID P-USTA1

COL. 1 ITEM NUMBER (SEQUENCE NO.)	COL. 2 ENGINEER'S ESTIMATE OF QUANTITIES	COL. 3 CLASSIFICATIONS	COL. 4 UNIT PRICES (IN FIGURES) DOLLARS	CTS	COL. 5 EXTENDED AMOUNTS (IN FIGURES) DOLLARS	CTS
50.31MC18 (013)	264.0 L.F.	18" E.S.V.P. STORM SEWER, ON CONCRETE CRADLE	$ 340	00	$ 89,760	00
51.21S0A1000V (014)	3.0 EACH	STANDARD MANHOLE TYPE A-1	$ 7,000	00	$ 21,000	00
51.23RF (015)	4.0 EACH	REPLACEMENT OF EXISTING MANHOLE FRAME AND COVER	$ 1,700	00	$ 6,800	00
51.41S001 (016)	7.0 EACH	STANDARD CATCH BASIN, TYPE 1	$ 11,000	00	$ 77,000	00

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52.11D12 (017)	201.0 L.F.	12" DUCTILE IRON PIPE BASIN CONNECTION	$ 300	00	$ 60,300	00
53.11DR (018)	505.0 L.F.	TELEVISION INSPECTION AND DIGITAL AUDIO-VISUAL RECORDING OF SEWERS	$ 7	00	$ 3,535	00
55.11AB (019)	3.0 EACH	ABANDONING BASINS AND INLETS	$ 6,000	00	$ 18,000	00
6.02 AAN (020)	9,724.0 C.Y.	UNCLASSIFIED EXCAVATION	$ 52	00	$ 505,648	00

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6.19 SBTA (021)	771.0 L.F.	FURNISHING AND INSTALLING STEEL BACKED TIMBER GUIDE RAIL WITH TIMBER POSTS AND BLOCK-OUTS	$ 119	00	$ 91,749	00
6.19 SBTB (022)	2.0 EACH	FURNISHING AND INSTALLING APPROACH ANCHOR UNITS FOR STEEL BACKED TIMBER GUIDE RAIL WITH TIMBER POSTS AND BLOCK-OUTS	$ 5,000	00	$ 10,000	00
6.22 F (023)	110.0 LBS.	ADDITIONAL HARDWARE	$ 10	00	$ 1,100	00
6.25 RS (024)	561.0 S.F.	TEMPORARY SIGNS	$ 8	00	$ 4,488	00

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6.26 (025)	418.0 L.F.	TIMBER CURB	$ 75	00	$ 31,350	00
6.27 (026)	1.0 L.S.	DEMOLITION OF STRUCTURES	$ 15,000	00	$ 15,000	00
6.28 BA (027)	123.0 L.F.	LIGHTED TYPE III BREAKAWAY BARRICADES	$ 50	00	$ 6,150	00
6.31 WS (028)	6.0 EACH	PRECAST CONCRETE WHEEL STOPS	$ 800	00	$ 4,800	00

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6.34 AC (029)	1,883.0 L.F.	CHAIN LINK FENCE, 6'-0" HIGH	$ 71	00	$ 133,693	00
6.34 BC (030)	40.0 L.F.	CHAIN LINK FENCE GATE FOR 6'-0" HIGH FENCE	$ 100	00	$ 4,000	00
6.34 X (031)	277.0 L.F.	REMOVE AND DISPOSE OF EXISTING CHAIN LINK FENCE	$ 50	00	$ 13,850	00
6.36 DR (032)	11.0 C.Y.	STRUCTURAL REPAIR AND ADJUSTMENT OF UTILITY STRUCTURES	$ 2,000	00	$ 22,000	00

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6.40 D (033)	18 ~~13.0~~ MONTH	ENGINEER'S FIELD OFFICE (TYPE D)	2,800 ~~3,000~~	00	50,400 ~~39,000~~	00
6.43 (034)	300.0 SETS	PHOTOGRAPHS	10	00	3,000	00
6.44 (035)	6,758.0 L.F.	THERMOPLASTIC REFLECTORIZED PAVEMENT MARKINGS (4" WIDE)	2	00	13,516	00
6.47 PCA2 (036)	673.0 S.Y.	PERMEABLE CONCRETE PAVERS ON STONE BASE	240	00	161,520	00

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6.49 (037)	675.0 L.F.	TEMPORARY PAVEMENT MARKINGS (4" WIDE)	$ 2	00	$ 1,350	00
6.50 (038)	11.0 EACH	CLEANING OF DRAINAGE STRUCTURES	$ 1,500	00	$ 16,500	00
6.52 (039)	~~1,839.0~~ 3,152 P/HR	UNIFORMED FULL-TIME FLAGPERSON	$ 79	00	249,008	00
6.53 (040)	3,710.0 L.F.	REMOVE EXISTING LANE MARKINGS (4" WIDE)	$ 1	00	$ 3,710	00

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6.55 (041)	3,483.0 L.F.	SAWCUTTING EXISTING PAVEMENT	$ 10	00	$ 34,830	00
6.59 P (042)	107.0 L.F.	TEMPORARY CONCRETE BARRIER	$ 100	00	$ 10,700	00
6.67 (043)	1,461.0 C.Y.	SUBBASE COURSE, SELECT GRANULAR MATERIAL	$ 50	00	$ 73,050	00
6.82 A (044)	36.0 S.F.	REMOVING EXISTING TRAFFIC AND STREET NAME SIGNS	$ 20	00	$ 720	00

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6.82 B (045)	74.0 L.F.	REMOVING EXISTING TRAFFIC AND STREET NAME SIGN POSTS	$ 100	00	$ 7,400	00
6.83 AB (046)	143.0 L.F.	FURNISHING NEW TRAFFIC SIGN POSTS	$ 20	00	$ 2,860	00
6.83 AR (047)	67.0 S.F.	FURNISHING NEW REFLECTORIZED TRAFFIC SIGNS	$ 20	00	$ 1,340	00
6.83 BA (048)	67.0 S.F.	INSTALLING TRAFFIC SIGNS	$ 20	00	$ 1,340	00

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6.83 BB (049)	143.0 L.F.	INSTALLING TRAFFIC SIGN POSTS	$ 10	00	$ 1,430	00
6.87 (050)	255.0 EACH	PLASTIC BARRELS	$ 60	00	$ 15,300	00
6.99 (051)	1.0 L.S.	AUDIO AND VIDEO DOCUMENTATION SURVEY	$ 10,000	00	$ 10,000	00
60.11R520 (052)	803.0 L.F.	FURNISHING AND DELIVERING 20-INCH DUCTILE IRON RESTRAINED JOINT PIPE (CLASS 55)	$ 155	00	$ 124,465	00

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60.11R606 (053)	81.0 L.F.	FURNISHING AND DELIVERING 6-INCH DUCTILE IRON RESTRAINED JOINT PIPE (CLASS 56)	$ 60	00	$ 4,860	00
60.11R608 (054)	113.0 L.F.	FURNISHING AND DELIVERING 8-INCH DUCTILE IRON RESTRAINED JOINT PIPE (CLASS 56)	$ 80	00	$ 9,040	00
60.12D06 (055)	85.0 L.F.	LAYING 6-INCH DUCTILE IRON PIPE AND FITTINGS	$ 35	00	$ 2,975	00
60.12D08 (056)	119.0 L.F.	LAYING 8-INCH DUCTILE IRON PIPE AND FITTINGS	$ 38	00	$ 4,522	00

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60.12D20 (057)	836.0 L.F.	LAYING 20-INCH DUCTILE IRON PIPE AND FITTINGS	$ 42	00	$ 35,112	00
60.13M0A24 (058)	5.5 TONS	FURNISHING AND DELIVERING DUCTILE IRON MECHANICAL JOINT 24-INCH DIAMETER AND SMALLER FITTINGS, INCLUDING WEDGE TYPE RETAINER GLANDS	$ 9,500	00	$ 52,250	00
61.11DMM06 (059)	3.0 EACH	FURNISHING AND DELIVERING 6-INCH MECHANICAL JOINT DUCTILE IRON GATE VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS	$ 1,200	00	$ 3,600	00
61.11DMM20 (060)	1.0 EACH	FURNISHING AND DELIVERING 20-INCH MECHANICAL JOINT DUCTILE IRON GATE VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS	$ 20,000	00	$ 20,000	00

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61.11TWC08 (061)	1.0 EACH	FURNISHING AND DELIVERING 8-INCH WET CONNECTION TAPPING VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS	$ 1,200	00	$ 1,200	00
61.12DMM06 (062)	3.0 EACH	SETTING 6-INCH MECHANICAL JOINT DUCTILE IRON GATE VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS	$ 1,000	00	$ 3,000	00
61.12DMM20 (063)	1.0 EACH	SETTING 20-INCH MECHANICAL JOINT DUCTILE IRON GATE VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS	$ 2,000	00	$ 2,000	00
61.12TWC08 (064)	1.0 EACH	SETTING 8-INCH WET CONNECTION TAPPING VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS	$ 1,200	00	$ 1,200	00

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62.11SD (065)	3.0 EACH	FURNISHING AND DELIVERING HYDRANTS	$ 3,200	00	$ 9,600	00
62.12SG (066)	3.0 EACH	SETTING HYDRANTS COMPLETE WITH WEDGE TYPE RETAINER GLANDS	$ 800	00	$ 2,400	00
62.13RH (067)	3.0 EACH	REMOVING HYDRANTS	$ 600	00	$ 1,800	00
62.14FS (068)	6.0 EACH	FURNISHING, DELIVERING AND INSTALLING HYDRANT FENDERS	$ 500	00	$ 3,000	00

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63.11VC (069)	7.0 TONS	FURNISHING AND DELIVERING VARIOUS CASTINGS	$ 6,000	00	$ 42,000	00
64.13WC20 (070)	1.0 EACH	FURNISHING, DELIVERING AND INSTALLING WET CONNECTION SLEEVE ON 20-INCH WATER MAIN PIPE WITH VARIOUS OUTLETS	$ 5,000	00	$ 5,000	00
65.11BR (071)	440.0 LBS.	FURNISHING, DELIVERING AND INSTALLING BANDS, RODS, WASHERS, ETC., COMPLETE, FOR RESTRAINING JOINTS	$ 9	00	$ 3,960	00
65.21PS (072)	1,041.0 L.F.	FURNISHING AND PLACING POLYETHYLENE SLEEVE **Unit price bid shall not be less than: $ 0.50**	$ 5	00	$ 5,205	00

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65.31FF (073)	13,530.0 S.F.	FURNISHING, DELIVERING AND PLACING FILTER FABRIC **Unit price bid shall not be less than: $ 0.10**	$ 1	00	$ 13,530	00
65.71SG (074)	77.0 C.Y.	FURNISHING, DELIVERING AND PLACING SCREENED GRAVEL OR SCREENED BROKEN STONE BEDDING	$ 80	00	$ 6,160	00
7.12 A (075)	13.0 EACH	PROCTOR ANALYSIS	$ 1,100	00 XX	$ 14,300	00 XX
7.12 B (076)	13.0 EACH	IN-PLACE SOIL DENSITY TEST	$ 1,400	00 XX	$ 18,200	

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7.13 B (077)	12 ~~7.0~~ MONTH	MAINTENANCE OF SITE **Unit price bid shall not be less than: $ 7,000.00**	$ 7,000	00	84,000 $ ~~49,000~~	00 XX
7.16 D (078)	17.0 C.Y.	TEST PITS	800 $ ~~500~~	00	13,600 $ ~~8,500~~	00
7.36 (079)	502.0 L.F.	PEDESTRIAN STEEL BARRICADES	$ 25	00	$ 12,550	00
7.48 (080)	2,604.0 L.F.	UNDERDRAIN WRAPPED WITH FILTER FABRIC	$ 7	00 XX	$ 18,228	00 XX

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7.88 AA (081)	1.0 L.S.	RODENT INFESTATION SURVEY AND MONITORING **Unit price bid shall not be less than: $ 1,000.00**	$ 1,000	00	$ 1,000	00
7.88 AB (082)	~~47.0~~ 94 EACH	RODENT BAIT STATIONS **Unit price bid shall not be less than: $ 60.00**	$ 60	00	$ ~~2820~~ 5,640	~~00~~ 00
7.88 AC (083)	~~47.0~~ 94 EACH	BAITING OF RODENT BAIT STATIONS **Unit price bid shall not be less than: $ 9.25**	$ 10	00	$ ~~470~~ 940	~~00~~
7.88 AD (084)	~~4.0~~ 8 BLOCK	WATERBUG BAIT APPLICATIONS **Unit price bid shall not be less than: $ 65.00**	$ 65	00	$ ~~260~~ 520	~~00~~ 00

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70.11CS (085)	7,955.0 V.F.	CONCRETE FILLED STEEL PIPE PILES **Unit price bid shall not be less than: $ 37.50**	$ 80	00	$ 636,400	00
70.13MN (086)	1,718.0 V.F.	MINI-PILES (GROUTED)	(2) $ 310	00	(2) $ 532,580	00
70.13MT (087)	1.0 EACH	MINI-PILES, LOAD TEST	(2) $ 100,000	00	(2) $ 100,000	00
70.31FN (088)	3,084.0 L.F.	FENCING **Unit price bid shall not be less than: $ 2.00**	$ 2	00	(2) $ 6,168	00

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70.51EO (089)	6.0 C.Y.	EXCAVATION OF BOULDERS IN OPEN CUT **Unit price bid shall not be less than: $ 75.00**	$ 575	00	$ 3450	00
70.61RE (090)	6.0 C.Y.	ROCK EXCAVATION	$ 1,600	00	$ 9,600	00
70.71SB (091)	57.0 C.Y.	STONE BALLAST **Unit price bid shall not be less than: $ 15.00**	$ 15	00	$ 855	00
70.81CB (092)	1,778.0 C.Y.	CLEAN BACKFILL **Unit price bid shall not be less than: $ 15.00**	$ 15	00	$ 26,670	00

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70.91SW12 (093)	1,078.0 S.F.	FURNISHING AND PLACING SHEETING AND BRACING IN TRENCH FOR WATER MAIN PIPE 12-INCH IN DIAMETER AND LESS	$ 13	00	$ 14,014	00 XX
70.91SW20 (094)	10,340.0 S.F.	FURNISHING AND PLACING SHEETING AND BRACING IN TRENCH FOR WATER MAIN PIPE 20-INCH IN DIAMETER	$ 6	00 XX	$ 62,040	00 XX
73.21AC (095)	35.0 C.Y.	ADDITIONAL CONCRETE **Unit price bid shall not be less than: $ 62.50**	$ 500		$ 17,500	00 XX
73.51AS (096)	7,390.0 LBS.	ADDITIONAL STEEL REINFORCING BARS **Unit price bid shall not be less than: $ 1.00**	$ 2		$ 14,780	00 XX

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76.11CR (097)	1.0 L.S.	CONSTRUCTION REPORT	$ 10,000	00 XX	$ 10,000	00 XX
76.21MR (098)	1.0 L.S.	MONITORING AND POST-CONSTRUCTION REPORT	$ 10,000	00 XX	$ 10,000	00 XX
8.01 C1 (099)	200.0 TONS	HANDLING, TRANSPORTING AND DISPOSAL OF NON-HAZARDOUS CONTAMINATED SOIL	$ 82	00 XX	$ 16,400	00
8.01 C2 (100)	6.0 SETS	SAMPLING AND TESTING OF CONTAMINATED/POTENTIALLY HAZARDOUS SOIL FOR DISPOSAL PURPOSES	$ 1,300	00 XX	$ 7,699	00 XX

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8.01 H (101)	4,300.0 TONS	HANDLING, TRANSPORTING AND DISPOSAL OF HAZARDOUS SOIL	$ 163	00/XX	$ 700,900	00/XX
8.01 S (102)	1.0 L.S.	HEALTH AND SAFETY	$ 4,100	00/XX	$ 4,100	00/XX
8.01 W1 (103)	14.0 DAY	REMOVAL, TREATMENT, AND DISCHARGE/DISPOSAL OF CONTAMINATED WATER	$ 1,500	00/XX	$ 21,000	00/XX
8.01 W2 (104)	2.0 SETS	SAMPLING AND TESTING OF WATER	$ 1,450	00/XX	$ 2,900	00/XX

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8.02 A (105)	836.0 S.F.	SPECIAL CARE EXCAVATION AND RESTORATION FOR SIDEWALK WORK	$ 20	00 XY	$ 16,720	00
8.02 B (106)	172.0 L.F.	SPECIAL CARE EXCAVATION AND RESTORATION FOR CURB WORK	$ 25	00 XX	$ 4,300	00
9.09 (107)	329.0 C.Y.	UNDERDRAIN FILTER, TYPE I	$ 75	00 XY	$ 24,675	00 XY
9.30 (108)	1.0 L.S.	STORM WATER POLLUTION PREVENTION	$ 25,000	00 XX	$ 25,000	00 XY

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E260513 A (109)	6,510.0 L.F.	MV 5 KV, (3) 1/C #4/0 AWG SHIELDED CABLE	$ 42	00 XX	$ 273,420	00
E260513 B (110)	480.0 L.F.	MV 27 KV, (3) 1/C#500 MCM OR 3/C #500 MCM SHIELDED CABLE	$ 84	00 XX	$ 40,320	00
E260513 C (111)	18.0 EACH	MV 5 KV, (3) 1/C #4/0 AWG SHIELDED CABLE SPLICE AND TERMINATION KIT	$ 6,000	00 XX	$ 108,000	00
E260513 D (112)	4.0 EACH	MV 27 KV, (3)1/C #500 MCM OR 3/C #500 MCM SHIELDED CABLE SPLICE AND TERMINATION KIT	$ 6,000	00 XX	$ 24,000	00

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E260513 E (113)	9.0 EACH	HIGH VOLTAGE TESTING MV 5 KV, (3) 1/C #4/0 AWG CABLE	$ 6,500	00 XX	$ 58,500	00
E260513 F (114)	2.0 EACH	HIGH VOLTAGE TESTING MV 27 KV, (3) 1/C #500 MCM OR 3/C #500 MCM CABLE	$ 4,800	00 XX	$ 9,600	00
E260513 G (115)	4,080.0 L.F.	DEMOLITION OF EXISTING MV 5 KV AND 27 KV CABLES	$ 4	00 XX	$ 16,320	00
E260526 A (116)	9.0 EACH	COPPER CLAD GROUND RODS 1" DIA, 10 FEET LONG	$ 260	00 XX	$ 2,340	00

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E260526 B (117)	6,500.0 L.F.	BARE #2 AWG COPPER GROUND WIRE	$ 4	00 XX	$ 26,000	00
E260526 C (118)	360.0 L.F.	BARE #4/0 AWG COPPER GROUND CABLE	$ 9	00 XX	$ 3,240	00
E260543 A (119)	2,410.0 L.F.	CONCRETE ENCASED DUCTBANK WITH SIX (6) 4" PVC CONDUITS ON ROADWAY	$ 93	00 XX	$ 224,130	00
E260543 B (120)	360.0 L.F.	CONCRETE ENCASED DUCTBANK WITH SIX (6) 4" PVC CONDUITS IN LAWN AREA	$ 91	00 XX	$ 32,760	00

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E260543 C (121)	1,250.0 L.F.	CONCRETE ENCASED DUCTBANK WITH FOUR (4) 4" PVC CONDUITS ON ROADWAY	$ 60	00 XX	$ 75,000	00
E260543 D (122)	100.0 L.F.	CONCRETE ENCASED DUCTBANK WITH FOUR (4) 4" PVC CONDUITS IN LAWN AREA	$ 60	00 XX	$ 6,000	00
E260543 E (123)	12.0 EACH	PREFABRICATED CONCRETE MANHOLE	$ 15,000	00 XX	$ 180,000	00
E260543 F (124)	22,000.0 L.F.	NYLON PULL ROPE	$ 2	00 XX	$ 44,000	00

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E260543 G (125)	400.0 L.F.	TRENCHING AND BACKFILLING EARTH - IN LAWN AREA	$ 35	00	$ 14,000	00
E260543 H (126)	3,710.0 L.F.	TRENCHING AND BACKFILLING EARTH - ON ROADWAY	$ 20	00	74,200	00
E260543 I (127)	1,305.0 L.F.	DEMOLITION OF EXISTING CONCRETE ENCASED DUCTBANK	$ 18	00	$ 23,490	00
E260543 J (128)	1,065.0 L.F.	TRENCHING AND BACKFILLING EARTH FOR EXISTING DUCTBANK DEMOLITION	$ 18	00	$ 19,170	00

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E260553 A (129)	4,050.0 L.F.	WARNING TAPE	$ 1	00	$ 4,050	00
EW-900T (130)	1.0 F.S.	ALLOWANCE FOR TELECOMMUNICATION PRICE BID SHALL BE FOR THE FIXED SUM OF $ 160,000.00	$ 160,000	00	$ 160,000	00
HW-900H (131)	1.0 F.S.	ALLOWANCE FOR CITY WORK ACCELERATION PRICE BID SHALL BE FOR THE FIXED SUM OF $ 50,000.00	$ 50,000	00	$ 50,000	00
PK-18 (132)	12,400.0 L.F.	RANGE FENCE 4'-0" HEIGHT	$ 8	00	$ 99,200	00

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PK-227A (133)	14.0 S.Y.	GRANITE BLOCK PAVEMENT ON SAND	$ 253	00	$ 3,542	00
PK-22A (134)	3,905.0 L.F.	TREE PROTECTION FENCE	$ 6	00	$ 23,430	00
PK-22B (135)	12.0 EACH	TREE PROTECTION WRAP	$ 900	00	$ 10,800	00
PK-22C (136)	12.0 EACH	TEMPORARY WOODEN TREE GUARD	$ 350	00	$ 4,200	00

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PK-22D (137)	3,850.0 S.F.	ROOT AERATION MATTING	$ 7	00 XX	$ 26,950	00
PK-22E (138)	385.0 L.F.	TEMPORARY SILT FENCE	$ 10	00 XX	$ 3,850	00
PK-22F (139)	165.0 C.Y.	HAND AND SSAT EXCAVATION	$ 400	00 XX	$ 66,000	00
PK-22G (140)	571.0 L.F.	MECHANICAL ROOT PRUNING	$ 5	00 XX	$ 2,855	00

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PK-22H (141)	571.0 L.F.	SSAT ROOT PRUNING	$ 7	00 XX	$ 3,997	00
PK-22J (142)	30.0 EACH TREE	TREE CANOPY AND CLEARANCE PRUNING	$ 900	00 XX	$ 27,000	00
PK-22K (143)	262.0 DIA. INCH	TREE GROWTH REGULATOR (TREE PROTECTION)	$ 9	00 XX	$ 2,358	00
PK-22L (144)	264.0 P/HR	CONSTRUCTION OVERSIGHT BY CONTRACT ARBORIST	$ 100	00 XX	$ 26,400	00

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PK-22M (145)	16.0 VISIT	TREE CONDITION MONITORING (TREE PROTECTION)	$ 900	00 XX	$ 14,400	00
PK-22N (146)	40.0 M/GAL	SUPPLEMENTAL WATER / TEMPORARY IRRIGATION (TREE PROTECTION)	$ 140	00 XX	$ 5,600	00
PK-22P (147)	4.0 VISIT	SOIL CARE PROGRAM (TREE PROTECTION)	$ 350	00 XX	$ 1,400	00
PK-23A (148)	1.0 EACH	MOBILIZE 90" SPADE	$ 6,000	00 XX	$ 6,000	00

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PK-23B (149)	1.0 EACH	MOBILIZE 102" SPADE	$ 7,125	00 XX	$ 7,125	00
PK-23C (150)	1.0 EACH	MOBILIZE 120" SPADE	$ 8,900	00 XX	$ 8,900	00
PK-23D (151)	15.0 EACH	TRANSPLANT WITH 90" SPADE	$ 1,600	00 XX	$ 24,000	00
PK-23E (152)	4.0 EACH	TRANSPLANT WITH 102" SPADE	$ 2,300	00 XX	$ 9,200	00

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PK-23F (153)	3.0 EACH	TRANSPLANT WITH 120" SPADE	$ 3,800 ~~3,800~~	00 XX	$ 11,400	00
PK-23G (154)	232.0 DIA. INCH	TREE GROWTH REGULATOR (TRANSPLANTING)	$ 17	00 XX	$ 3,944	00
PK-23H (155)	4.0 VISIT	SOIL CARE PROGRAM (TRANSPLANTING)	$ 3,500	00 XX	$ 14,000	00
PK-23J (156)	25.0 M/GAL	SUPPLEMENTAL WATER / TEMPORARY IRRIGATION (TRANSPLANTING)	$ 150	00 XX	$ 3,750	00

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PK-23K (157)	32.0 VISIT	TREE CONDITION MONITORING (TRANSPLANTING)	$ 400	00 XX	$ 12,800	00
PK-26A (158)	4.0 EACH	TREE REMOVAL (6" TO UNDER 12" DBH)	$ 450	00 XX	$ 1,800	00
PK-26B (159)	25.0 EACH	TREE REMOVAL (12" TO UNDER 18" DBH)	$ 400	00 XX	$ 10,000	00
PK-26C (160)	5.0 EACH	TREE REMOVAL (18" TO UNDER 24" DBH)	$ 500	00 XX	$ 2,500	00

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PK-26D (161)	7.0 EACH	TREE REMOVAL (24" TO UNDER 30" DBH)	$ 1,500		$ 10,500	00
PK-26E (162)	5.0 EACH	TREE REMOVAL (30" TO UNDER 36" DBH)	$ 2,500		$ 12,500	00
PK-26F (163)	1.0 EACH	TREE REMOVAL (36" DBH AND OVER)	$ 10,010	00 XX	$ 10,010	00
PK-34 (164)	242.0 C.Y.	COMPOST (TRUCK MEASURE)	$ 90	00 XX	$ 21,780	00

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PK-35 (165)	2,662.0 S.Y.	SHREDDED BARK MULCH	$ 5	00/XX	$ 13,310	00
PK-366 (166)	141.0 L.F.	TIMBER BARRIER RAIL - ONE RAIL (TYPE C)	$ 50	00/XX	$ 7,050	00
PK-37A (167)	814.0 C.Y.	TOPSOIL FOR PLANTING PITS AND BEDS	$ 50	00/XX	$ 40,700	00
PK-38A (168)	44.0 C.Y.	TOPSOIL FOR SEEDED AND SODDED AREAS	$ 50	00/XX	$ 2,200	00

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PK-454A (169)	1,760.0 LBS.	COMMERCIAL FERTILIZER LOW PHOSPHORUS (SLOW RELEASE)	$ 3	00 XX	$ 5,280	00
PK-455 (170)	2,200.0 LBS.	LIMESTONE	$ 3	00 XX	$ 6,600	00
PK-465 (171)	44,000.0 S.F.	SOD WITH COMPOST	$ 3	00 XX	$ 132,000	00
PK-476A (172)	9.0 EACH	PLANT MATERIAL - ABIES CONCOLOR (6' TO 8' HT.)	$ 350	00 XX	$ 3,150	00

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PK-476AA (173)	3.0 EACH	PLANT MATERIAL - QUERCUS PALUSTRIS (2.5" TO 3" CAL.)	$ 550	00 XX	$ 1,650	00
PK-476B (174)	22.0 EACH	PLANT MATERIAL - ACER RUBRUM (2" TO 2.5" CAL.)	$ 550	00 XX	$ 12,100	00
PK-476BB (175)	46.0 EACH	PLANT MATERIAL - QUERCUS PHELLOS (2.5" TO 3" CAL.)	$ 525	00 XX	$ 24,150	00
PK-476C (176)	14.0 EACH	PLANT MATERIAL - AMELANCHIER CANADENSIS (8' TO 10' HT.)	$ 430	00 XX	$ 6,020	00

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PK-476CC (177)	36.0 EACH	PLANT MATERIAL - QUERCUS RUBRA (2.5" TO 3" CAL.)	$ 580	00 XX	$ 20,880	00
PK-476D (178)	20.0 EACH	PLANT MATERIAL - AMELANCHIER LAEVIS (8' TO 10' HT.)	$ 480	00 XX	$ 9,600	00
PK-476DD (179)	10.0 EACH	PLANT MATERIAL - TAXODIUM DISTICHUM (2.5" TO 3" CAL.)	$ 600	00 XX	$ 6,000	00
PK-476E (180)	13.0 EACH	PLANT MATERIAL - CARPINUS CAROLINIANA (2.5" TO 3" CAL.)	$ 750	00 XX	$ 9,750	00

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PK-476EE (181)	9.0 EACH	PLANT MATERIAL - THUJA OCCIDENTALIS (6' TO 8' HT.)	$ 450	00 XX	$ 4,050	00
PK-476F (182)	16.0 EACH	PLANT MATERIAL - CELTIS OCCIDENTALIS (2.5" TO 3" CAL.)	$ 700	00 XX	$ 11,200	00
PK-476FF (183)	10.0 EACH	PLANT MATERIAL - TILIA AMERICANA (2.5" TO 3" CAL.)	$ 700	00 XX	$ 7,000	00
PK-476G (184)	19.0 EACH	PLANT MATERIAL - CERCIS CANADENSIS (2" TO 2.5" CAL.)	$ 600	00 XX	$ 11,400	00

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PK-476H (185)	10.0 EACH	PLANT MATERIAL - CERCIS CANADENSIS (8' TO 10' HT.)	$ 450	00 XX	$ 4,500	00
PK-476J (186)	3.0 EACH	PLANT MATERIAL - CHAMAECYPARIS THYOIDES (6' TO 8' HT.)	$ 600	00 XX	$ 1,800	00
PK-476K (187)	20.0 EACH	PLANT MATERIAL - CORNUS MAS (2.5" TO 3" CAL.)	$ 700	00 XX	$ 14,000	00
PK-476L (188)	11.0 EACH	PLANT MATERIAL - CORNUS MAS (8' TO 10' HT.)	$ 650	00 XX	$ 7,150	00

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PK-476M (189)	6.0 EACH	PLANT MATERIAL - GLEDITSIA TRIACANTHOS INERMIS (3" TO 3.5" CAL.)	$ 800	00 XX	$ 4,800	00
PK-476N (190)	12.0 EACH	PLANT MATERIAL - GLEDITSIA TRIACANTHOS INERMIS (2.5" TO 3" CAL.)	$ 700	00 XX	$ 8,400	00
PK-476P (191)	30.0 EACH	PLANT MATERIAL - ILEX OPACA (6' TO 8' HT.)	$ 500	00 XX	$ 15,000	00
PK-476Q (192)	12.0 EACH	PLANT MATERIAL - JUNIPERUS VIRGINIANA (6' TO 8' HT.)	$ 450	00 XX	$ 5,400	00

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PK-476R (193)	90.0 EACH	PLANT MATERIAL - LIQUIDAMBAR STYRACIFLUA (2.5" TO 3" CAL.)	$ 600	00 / XX	$ 54,000	00
PK-476S (194)	23.0 EACH	PLANT MATERIAL - LIRIODENDRON TULIPIFERA (2.5" TO 3" CAL.)	$ 600	00 / XX	$ 13,800	00
PK-476T (195)	60.0 EACH	PLANT MATERIAL - NYSSSA SYLVATICA (2" TO 2.5" CAL.)	$ 525	00 / XX	$ 31,500	00
PK-476V (196)	8.0 EACH	PLANT MATERIAL - PICEA ABIES (8' TO 10' HT.)	$ 450	00 / XX	$ 3,600	00

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PK-476W (197)	15.0 EACH	PLANT MATERIAL - PICEA OMORIKA (8' TO 10')	$ 400	00 XX	$ 6,000	00
PK-476X (198)	23.0 EACH	PLANT MATERIAL - PINUS STROBUS (8' TO 10' HT.)	$ 400	00 XX	$ 9,200	00
PK-476Y (199)	15.0 EACH	PLANT MATERIAL - PLATANUS X ACERIFOLIA (2.5" TO 3" CAL.)	$ 625	00 XX	$ 9,375	00
PK-476Z (200)	55.0 EACH	PLANT MATERIAL - QUERCUS BICOLOR (2.5" TO 3" CAL.)	$ 565	00 XX	$ 31,075	00

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SL-20.01.02 (201)	11.0 EACH	FURNISH AND INSTALL FOUNDATION FOR TYPE "WF" LAMPPOST, AS PER DRAWING E-5124	$ 1,000	00 XX	$ 11,000	00
SL-20.02.02 (202)	8.0 EACH	FURNISH AND INSTALL STANDARD TYPE ANCHOR BOLT FOUNDATION, AS PER DRAWING E-3788	$ 1,260	00 XX	$ 10,080	00
SL-20.08.01 (203)	8.0 EACH	REMOVE STANDARD TYPE ANCHOR BOLT CONCRETE FOUNDATION	$ 900	00 XX	$ 7,200	00
SL-21.01.09 (204)	11.0 EACH	FURNISH AND INSTALL "WF" LAMPPOST WITHOUT TRANSFORMET BASE.	$ 1,300	00 XX	$ 14,300	00

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SL-21.03.24 (205)	8.0 EACH	FURNISH AND INSTALL 2S,6S,8S,12S FABRICATED STEEL DAVIT LAMPPOST WITH TRANSFORMER BASE AS PER DWG, J-5309.	$ 3,350	00/XX	$ 26,800	00
SL-21.09.01 (206)	1.0 EACH	REMOVE PARK TYPE LAMPPOST ON FOUNDATION, WITH ALL ATTACHMENTS, IF ANY.	$ 390	00/XX	$ 390	00
SL-21.09.05 (207)	8.0 EACH	REMOVE STANDARD FABRICATED STEEL, SPUN ALUMINUM NO. 10, ETC. WITH ARM(S), LUMINAIRE(S), CONTROL(S) WITH ALL ATTACHMENTS, IF ANY.	$ 500	00/XX	$ 4,000	00
SL-22.01.02 (208)	11.0 EACH	FURNISH AND INSTALL TYPE 2085 100 WATT HIGH PRESSURE SODIUM LUMINAIRE WITH 55 VOLT LAMP.	$ 670	00/XX	$ 7,370	00

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COL. 1 ITEM NUMBER (SEQUENCE NO.)	COL. 2 ENGINEER'S ESTIMATE OF QUANTITIES	COL. 3 CLASSIFICATIONS	COL. 4 UNIT PRICES (IN FIGURES) DOLLARS	CTS	COL. 5 EXTENDED AMOUNTS (IN FIGURES) DOLLARS	CTS
SL-22.16.05 (209)	8.0 EACH	FURNISH AND INSTALL ROADWAY TYPE LED FIXTURE AS PER SPECIFICATION 466 WITH PEC RECEPTACLE AND PEC	$ 600	00 XX	$ 4,800	00
SL-23.01.17 (210)	2.0 EACH	INSTALL UNDER DECK LUMINAIRE SPECIFICATION # 464, LAMP FURNISH BY CONTRACTOR	$ 800	00 XX	$ 1,600	00
SL-23.01.18 (211)	2.0 EACH	FURNISH LED UNDER DECK LUMINAIRE AS PER SPECIFICATION #464	$ 875	00 XX	$ 1,750	00
SL-23.04.02 (212)	2.0 EACH	REMOVE LUMINAIRE (SIGNLITE, WALLPACK, UNDERDECK, RECESSED, ETC.) SURFACE MOUNTED ON STRUCTURE OR UNDERPASS WITH ALL APPURTENANT EQUIPMENT	$ 400	00 XX	$ 800	00

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

Contract PIN 8502014HW0007C
Project ID P-USTA1

COL. 1 ITEM NUMBER (SEQUENCE NO.)	COL. 2 ENGINEER'S ESTIMATE OF QUANTITIES	COL. 3 CLASSIFICATIONS	COL. 4 UNIT PRICES (IN FIGURES) DOLLARS	CTS	COL. 5 EXTENDED AMOUNTS (IN FIGURES) DOLLARS	CTS
SL-25.01.16 (213)	11.0 EACH	FURNISH AND INSTALL POLE CAP ADAPTER	$ 20	00 XX	$ 220	00
SL-27.01.01 (214)	21.0 EACH	FURNISH AND INSTALL ALUMINUM TAG ON A LAMPPOST, AS PER DRAWING D-2861	$ 200	00 XX	$ 4,200	00
SL-29.01.01 (215)	10.0 EACH	FURNISH, INSTALL, MAINTAIN AND REMOVE EQUIPMENT FOR TEMPORARY LIGHTING (PYLON), AS PER DRAWINGS F-5005 AND F-5005A	$ 850	00 XX	$ 8,500	00
SL-31.01.02 (216)	11.0 EACH	PAINT A PARK OR PEDESTRIAN TYPE LAMPPOST (TYPE "B", "BB", "E", "WF", ETC.)	$ 129	00 XX	$ 1,419	00

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

Contract PIN 8502014HW0007C
Project ID P-USTA1

COL. 1 ITEM NUMBER (SEQUENCE NO.)	COL. 2 ENGINEER'S ESTIMATE OF QUANTITIES	COL. 3 CLASSIFICATIONS	COL. 4 UNIT PRICES (IN FIGURES) DOLLARS	CTS	COL. 5 EXTENDED AMOUNTS (IN FIGURES) DOLLARS	CTS
SL-32.02.01 (217)	11.0 EACH	FURNISH AND INSTALL AN IN-LINE FUSE HOLDER WITH LIMITER (BUSS FUSE OR EQUAL) FOR NO. 6 AWG CABLE	$ 75	00 XX	$ 825	00
SL-33.01.01 (218)	900.0 L.F.	FURNISH AND INSTALL NO. 12 AWG XLP COPPER WIRE OR EQUAL IN CONDUIT	$ 4	00 XX	$ 3,600	00
SL-33.01.02 (219)	80.0 L.F.	FURNISH AND INSTALL NO. 6 AWG XLP COPPER CABLE OR EQUAL IN CONDUIT	$ 6	00 XX	$ 480	00
SL-33.01.04 (220)	6,700.0 L.F.	FURNISH AND INSTALL NO. 2/0 AWG XLP COPPER CABLE OR EQUAL IN CONDUIT	$ 10	00 XX	$ 67,000	00

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

Contract PIN 8502014HW0007C
Project ID P-USTA1

COL. 1 ITEM NUMBER (SEQUENCE NO.)	COL. 2 ENGINEER'S ESTIMATE OF QUANTITIES	COL. 3 CLASSIFICATIONS	COL. 4 UNIT PRICES (IN FIGURES) DOLLARS	CTS	COL. 5 EXTENDED AMOUNTS (IN FIGURES) DOLLARS	CTS
SL-33.01.10 (221)	25.0 L.F.	REMOVE CONDUCTORS FROM EXISTING CONDUITS OR DUCTS	$ 10	00 XX	$ 250	00
SL-33.03.01 (222)	30.0 L.F.	FURNISH AND INSTALL #6 BARE COPPER CONDUCTOR IN CONDUIT OR OVERHEAD.	$ 5	00 XX	$ 150	00
SL-35.01.05 (223)	380 ~~300.0~~ L.F.	FURNISH AND INSTALL 3" HOT DIPPED GALVANIZED STEEL CONDUIT IN PAVED AREA.	$ 60 ~~[illegible]~~	00 XX	$ 22,800	00
SL-35.03.03 (224)	120.0 L.F.	FURNISH AND INSTALL 1-1/2" HOT DIPPED GALVANIZED STEEL CONDUIT IN UNPAVED AREA	$ 50 ~~[illegible]~~	00 XX	$ 6,000	00

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

Contract PIN 8502014HW0007C
Project ID P-USTA1

COL. 1 ITEM NUMBER (SEQUENCE NO.)	COL. 2 ENGINEER'S ESTIMATE OF QUANTITIES	COL. 3 CLASSIFICATIONS	COL. 4 UNIT PRICES (IN FIGURES) DOLLARS	CTS	COL. 5 EXTENDED AMOUNTS (IN FIGURES) DOLLARS	CTS
SL-35.03.05 (225)	1,600.0 L.F.	FURNISH AND INSTALL 3" HOT DIPPED GALVANIZED STEEL CONDUIT IN UNPAVED AREA.	$ 58	00 XX	$ 92,800	00
SL-37.05.09 (226)	23.0 EACH	FURNISH AND INSTALL TYPE 2418 ROADWAY CONCRETE BOX WITH CAST IRON FRAME AND COVER WITH TAMPER PROOF BOLTS AS PER DWG J-3179B.	$ 2,900	00 XX	$ 66,700	00

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

Contract PIN 8502014HW0007C
Project ID P-USTA1

COL. 1 ITEM NUMBER (SEQUENCE NO.)	COL. 2 ENGINEER'S ESTIMATE OF QUANTITIES	COL. 3 CLASSIFICATIONS	COL. 4 UNIT PRICES (IN FIGURES) DOLLARS	CTS	COL. 5 EXTENDED AMOUNTS (IN FIGURES) DOLLARS	CTS
		SUB-TOTAL:			$8,081,829	00
6.39 A (227)	1.0 LUMP SUM	MOBILIZATION PRICE BID SHALL NOT EXCEED 4% OF THE ABOVE SUB-TOTAL PRICE.			$323,270	00
		TOTAL BID PRICE:			$8,405,099	00

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.

(NO TEXT ON THIS PAGE)

Tax ID #: 13-4110973

APT E-PIN #: 85014B0032

SCHEDULE B – M/WBE Utilization Plan
Part I: M/WBE Participation Goals

1

Part I to be completed by contracting agency

Contract Overview

APT E- Pin #	85014B0032	**FMS Project ID#:**	P-USTA1
Project Title/ Agency PIN #	USTA UN AVENUE CONNECTOR ROAD RELOCATION / 8502014HW0007C		
Bid/Proposal Response Date	OCTOBER 10, 2013		
Contracting Agency	Department of Design and Construction		
Agency Address	30-30 Thomson Ave. **City** Long Island City **State** NY **Zip Code** 11101		
Contact Person	Jessica Lavides	**Title**	MWBE Liaison & Compliance Analyst
Telephone #	(718) 391-1065	**Email**	LavidesJe@ddc.nyc.gov

Project Description *(attach additional pages if necessary)*

USTA UN AVENUE
CONNECTOR ROAD
RELOCATION

MERIDIAN ROAD – FROM EXISTING CONNECTOR ROAD TO QUEENS MUSEUM OF ART
NEW CONNECTOR ROAD – FROM MERIDIAN ROAD TO UNITED NATIONS AVENUE N

INCLUDING MERIDIAN ROAD WIDENING, NEW CONNECTOR ROAD, SEWER, WATER MAIN, CATCH BASIN, ELECTRICAL, TELECOMMUNICATION, STREET LIGHTING, AND LANDSCAPE WORK

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

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

Prime Contract Industry: Construction

Group	Percentage	
Unspecified	6%	
or		
Black American	UNSPECIFIED	
Hispanic American	UNSPECIFIED	
Asian American	UNSPECIFIED	
Women	UNSPECIFIED	
Total Participation Goals	6%	Line 1

Tax ID #: 13-4110973 APT E- PIN #: 85014B0032

SCHEDULE B - Part II: M/WBE Participation Plan

Part II to be completed by the bidder/proposer.

Please note: For Non-M/WBE Prime Contractors who will NOT subcontract any services and will self-perform the entire contract, you must obtain a FULL waiver by completing the Waiver Application on pages 17 and 18 and timely submitting it to the contracting agency pursuant to the Notice to Prospective Contractors. Once a FULL WAIVER is granted, it must be included with your bid or proposal and you do not have to complete or submit this form with your bid or proposal.

Section I: Prime Contractor Contact Information

Tax ID #	13-4110973	**FMS Vendor ID #**	
Business Name	NY ASPHALT, INC.	**Contact Person**	MARCO BOCCHINO
Address	73 INDUSTRIAL LOOP STATEN ISLAND NY 10309		
Telephone #	718-966-6466	**Email**	mbocchino@nyasphalt.com

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

PRIME CONTRACTOR ADOPTING AGENCY M/WBE PARTICIPATION GOALS

☑ For Prime Contractors (including Qualified Joint Ventures and M/WBE firms) adopting Agency M/WBE Participation Goals.	Total Bid/Proposal Value		Agency Total Participation Goals (Line 1, Page 13)		Calculated M/WBE Participation Amount
Calculate the total dollar value of your total bid that you agree will be awarded to M/WBE subcontractors for services and/or credited to an M/WBE prime contractor or Qualified Joint Venture. Please review the Notice to Prospective Contractors for more information on how to obtain credit for M/WBE participation.	$ 8,405,099	X	6%	=	$ 504,305.94 Line 2

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

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

Tax ID #: 13-4110973

APT E-PIN #: 8501YB0032

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

☐ As an M/WBE Prime Contractor that will self-perform and/or subcontract to other M/WBE firms a portion of the contract the value of which is at least the amount located on Lines 2 or 3 above, as applicable. The value of any work subcontracted to non-M/WBE firms will not be credited towards fulfillment of M/WBE Participation Goals. Please check all that apply to Prime Contractor:

☐ MBE ☐ WBE

☐ As a Qualified Joint Venture with an M/WBE partner, in which the value of the M/WBE partner's participation and/or the value of any work subcontracted to other M/WBE firms is at least the amount located on Lines 2 or 3 above, as applicable. The value of any work subcontracted to non M/WBE firms will not be credited towards fulfillment of M/WBE Participation Goals.

☑ As a non M/WBE Prime Contractor that will enter into subcontracts with M/WBE firms the value of which is at least the amount located on Lines 2 or 3 above, as applicable.

Section IV: General Contract Information

What is the expected percentage of the total contract dollar value that you expect to award in subcontracts for services, regardless of M/WBE status? % 36

✓ Scopes of Subcontract Work

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

1. SSID INC. PAVEMENT MARKINGS + SIGNS ($50,000) WBE
2. PARDY & SONS CONCRETE CURBS + SIDEWALKS ($80,000) MBE
3. SOUND ENVIRONMENTAL ASSOCIATES - HAZARDOUS MATERIAL ($800,000) WBE
4.
5.
6.
7.
8.
9.
10.
11.
12.
13.
14.
15.
16.
17.

Tax ID #: 13-4110973

APT E-PIN #: 85014 B0032

Section V: Vendor Certification and Required Affirmations

I hereby:

1) acknowledge my understanding of the M/WBE participation requirements as set forth herein and the pertinent provisions of Section 6-129 of the Administrative Code of the City of New York ("Section 6-129"), and the rules promulgated thereunder;

2) affirm that the information supplied in support of this M/WBE Utilization Plan is true and correct;

3) agree, if awarded this Contract, to comply with the M/WBE participation requirements of this Contract, the pertinent provisions of Section 6-129, and the rules promulgated thereunder, all of which shall be deemed to be material terms of this Contract;

4) agree and affirm that it is a material term of this Contract that the Vendor will award the total dollar value of the M/WBE Participation Goals to certified MBEs and/or WBEs, unless a full waiver is obtained or such goals are modified by the Agency; and

5) agree and affirm, if awarded this Contract, to make all reasonable, good faith efforts to meet the M/WBE Participation Goals, or If a partial waiver is obtained or such goals are modified by the Agency, to meet the modified Participation Goals by soliciting and obtaining the participation of certified MBE and/or WBE firms.

Signature _____ **Date** 10/10/13

Print Name MICHAEL THOMPSON **Title** PRESIDENT

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

Contract Overview

Tax ID # _____ – FMS Vendor ID # _____

Business Name _____

Contact Name _____ Telephone # _____ Email _____

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

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

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

_____ % Agency M/WBE Participation Goal

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

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

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

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

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

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

References

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

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

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

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

TYPE OF Contract _____ **ENTITY** _____ **DATE COMPLETED** _____

Manager at entity that hired vendor (Name/Phone No./Email) _____

Total Contract Amount $ _____ **Total Amount Subcontracted** $ _____

Type of Work Subcontracted _____

TYPE OF Contract _____ **AGENCY/ENTITY** _____ **DATE COMPLETED** _____

Manager at agency/entity that hired vendor (Name/Phone No./Email) _____

Total Contract Amount $ _____ **Total Amount Subcontracted** $ _____

Item of Work Subcontracted and Value of subcontract _____ Item of Work Subcontracted and Value of subcontract _____ Item of Work Subcontracted and Value of subcontract _____

TYPE OF Contract _____ **AGENCY/ENTITY** _____ **DATE COMPLETED** _____

Manager at entity that hired vendor (Name/Phone No./Email) _____

Total Contract Amount $ _____ **Total Amount Subcontracted** $ _____

Item of Work Subcontracted and Value of subcontract _____ Item of Work Subcontracted and Value of subcontract _____ Item of Work Subcontracted and Value of subcontract _____

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

Signature: _____ **Date:** _____

Print Name: _____ **Title:** _____

Shaded area below is for agency completion only

AGENCY CHIEF CONTRACTING OFFICER APPROVAL

Signature: _____ **Date:** _____

CITY CHIEF PROCUREMENT OFFICER APPROVAL

Signature: _____ **Date:** _____

Waiver Determination

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

SPECIAL NOTICE TO BIDDERS

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

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

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

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

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CITY OF NEW YORK

DEPARTMENT OF DESIGN AND CONSTRUCTION DIVISION OF INFRASTRUCTURE

BID BOOKLET

FOR FURNISHING ALL LABOR AND MATERIALS
NECESSARY AND REQUIRED FOR:

PROJECT ID: P-USTA1

USTA UN AVENUE
CONNECTOR ROAD
RELOCATION

MERIDIAN ROAD – FROM EXISTING CONNECTOR ROAD TO QUEENS MUSEUM OF ART
NEW CONNECTOR ROAD – FROM MERIDIAN ROAD TO UNITED NATIONS AVENUE N

INCLUDING MERIDIAN ROAD WIDENING, NEW CONNECTOR ROAD, SEWER, WATER MAIN, CATCH BASIN, ELECTRICAL, TELECOMMUNICATION, STREET LIGHTING, AND LANDSCAPE WORK

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

(NO TEXT ON THIS PAGE)

PROJECT ID: P-USTA1

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

BID BOOKLET

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

SPECIAL NOTICE TO BIDDERS

BID SUBMISSION REQUIREMENTS

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

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

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

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

FAILURE TO SUBMIT ITEMS (4) THROUGH (11)
MAY RESULT IN THE DISQUALIFICATION OF THE BID.

NOTES:

(1) All of the above referred to blank forms to be completed and submitted with the bid are included in the BID BOOKLET.

(2) If the bidder has any questions or requires additional information, please contact the Department of Design and Construction by phone (718-391- 2601) or by fax (718-391-2615).

(3) VENDEX QUESTIONNAIRES: The Bidder is advised that Vendex Questionnaires and procedures have been changed. Vendex Questionnaires, as well as detailed instructions, may be obtained at www.nyc.gov/vendex. The bidder may also obtain Vendex forms and instructions by contacting the Agency Chief Contracting Officer or the contact person for this contract.

(4) SPECIAL EXPERIENCE REQUIREMENTS: The Bidder is advised that Special Experience Requirements may apply to this contract. Such requirements are set forth on pages 3 and 4 of this Bid Booklet.

SPECIAL NOTICE TO BIDDERS
SPECIAL EXPERIENCE REQUIREMENTS (Revised 02/2007)

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

The requirements set forth below under Article (B) apply to this contract where indicated by a blackened box (■) or by X in a □ to left.

☐ **(B)** **EXPERIENCE REQUIREMENTS FOR INSTALLER OF TRUNK WATER MAIN:** The special experience requirements set forth below apply to the contractor who will install the Trunk Water Main. If the bidder intends to perform such work itself, it must demonstrate compliance with the special experience requirements. If the bidder intends to subcontract this work, the proposed subcontractor must demonstrate compliance with the special experience requirements. Once approved, no substitution will be permitted, unless the qualifications of the proposed replacement have been approved in writing in advance by the City.

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

(C) **SUBMISSION REQUIREMENTS:** For each project submitted to meet the experience requirements set forth above, the bidder must complete and submit the Qualification Form set forth in the Bid Booklet. Separate Qualification Forms shall be provided for bidder and the contractor who will install the Trunk Water Main.

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

(1) Any principal or other employee on whose prior experience the bidder is relying to demonstrate compliance with this special experience requirement must have held the following: (a) a significant management role in the prior entity with which he/she was affiliated, and (b) a significant management role in the entity submitting the bid for a period of six months or more from the inception of the bidding entity.

(2) The bidder may not rely on the experience of its principals or other employees to demonstrate compliance with any other requirements, including without limitation, financial requirements or requirements for a specified minimum amount of annual gross revenues.

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

(F) **COMPLIANCE**: Compliance with the experience requirements set forth herein will be determined solely by the City, prior to an award of contract. The bidder is advised that failure to meet the above described experience will result in the rejection of the bid as non-responsive.

Qualification Form

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

Name of Contractor: _____

Name of Project: _____

Location of Project: _____

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

Name: _____
Title: _____ Phone Number: _____

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

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

Amount of Contract, Subcontract or Sub-subcontract: _____

Start Date and Completion Date: _____

****

Name of Contractor: _____

Name of Project: _____

Location of Project: _____

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

Name: _____
Title: _____ Phone Number: _____

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

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

Amount of Contract, Subcontract or Sub-subcontract: _____

Start Date and Completion Date: _____

(NO TEXT ON THIS PAGE)

ATTACHMENT 1 - BID INFORMATION

PROJECT ID: P-USTA1
PIN: 8502014HW0007C

Description and Location of Work:

USTA UN AVENUE
CONNECTOR ROAD
RELOCATION

MERIDIAN ROAD – FROM EXISTING CONNECTOR ROAD TO
QUEENS MUSEUM OF ART
NEW CONNECTOR ROAD – FROM MERIDIAN ROAD TO
UNITED NATIONS AVENUE N

INCLUDING MERIDIAN ROAD WIDENING, NEW CONNECTOR ROAD,
SEWER, WATER MAIN, CATCH BASIN, ELECTRICAL,
TELECOMMUNICATION, STREET LIGHTING,
AND LANDSCAPE WORK

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

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

Submission of Bids To: 30-30 Thomson Avenue
First Floor Bid Procurement Room
Long Island City, New York 11101
Before 11:00 A.M. on **OCTOBER 10, 2013**

Bid Opening: 30-30 Thomson Avenue
First Floor Bid Procurement Room
Long Island City, New York 11101

Time and Date: 11:00 A.M. on **OCTOBER 10, 2013**

Pre-Bid Conference:

Yes	_____	No	X
If Yes, Mandatory	_____	Optional:	_____
Time and Date:	_____		
Location:	_____		

Bid Security: Bid Security is required in the amount set forth below; provided, however, bid security is not required if the TOTAL BID PRICE set forth on the Bid Form is less than $ 1,000,000.00.

(1) Bond in an amount not less than 10% of the TOTAL BID PRICE set forth on the Bid Form, OR

(2) Certified Check in an amount not less than 2% of the TOTAL BID PRICE set forth on the Bid Form.

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

Agency Contact Person: Lorraine Holley
Phone: 718-391-2601 FAX: 718-391-2615

(NO TEXT ON THIS PAGE)

BID SCHEDULE

NOTICE TO BIDDERS

Items listed in this Bid Schedule which have one (1) digit followed by a decimal (e.g. 4.13 DE), except for items beginning with the number "8.01", shall comply with the requirements of the corresponding numerical Sections of the NYCDOT Standard Highway Specifications, dated November 1, 2010, and as amended by Addendum No. 1, herein Volume 3 of 3.

Items listed in this Bid Schedule beginning with the number "8.01" followed by a letter (e.g. 8.01 C2) shall comply with the requirements of the corresponding numerical Sections of the DDC Specifications for Handling, Transportation and Disposal of Nonhazardous and Potentially Hazardous Contaminated Materials contained in Addendum No. 5, herein Volume 3 of 3.

Items listed in this Bid Schedule which have two (2) digits beginning with the number "5" followed by a decimal (e.g. 51.41S001) shall comply with the requirements of the New York City Department of Environmental Protection (NYCDEP) Standard Sewer Specifications, dated August 1, 2009, and as amended by Addendum No. 2, herein Volume 3 of 3.

Items listed in the Bid Schedule which have two (2) digits beginning with the number "6" followed by a decimal (e.g. 60.11R520) shall comply with the requirements of the New York City Department of Environmental Protection (NYCDEP) Standard Water Main Specifications, dated August 1, 2009, and as amended by Addendum No. 2, herein Volume 3 of 3.

Items listed in the Bid Schedule which have two (2) digits beginning with the number "7" followed by a decimal (e.g. 70.13 MN), shall comply with the requirements of the New York City Department of Environmental Protection (NYCDEP) Standard Sewer Specifications, dated August 1, 2009, or the NYCDEP Standard Water Main Specifications, dated August 1, 2009, as applicable, and as amended by Addendum No. 2, herein Volume 3 of 3.

Items listed in this Bid Schedule beginning with the prefix "E" and "EW-" (e.g. E260543 A, EW-900T) shall comply with the requirements of the corresponding alphanumeric Sections incorporated in Addendum No. 4, herein Volume 3 of 3.

Item listed in this Bid Schedule beginning with the letter "HW-" (e.g. HW-900H) shall comply with the requirements of the Section HW-900H incorporated in Addendum No. 1, herein Volume 3 of 3.

Items listed in this Bid Schedule with the prefix "PK-" (e.g. PK-34) are modified version of New York City Department of Parks and Recreation (NYCDPR) Items and shall comply with the requirements of the corresponding alphanumeric Sections incorporated in Addendum No. 3, herein Volume 3 of 3. However all, references therein to the "Landscape Architect", "Project Arborist", "Resident Engineer", "Director of the Arboriculture and Horticulture", or any of the officials of Department of the Parks and Recreation, shall be deemed to mean the "Engineer". Where any reference is made on the Contract Drawings or the specifications in Addendum No. 3, herein Volume 3 of 3, to NYCDPR's Standard Drawings and Specifications (e.g. Section C), the Contractor shall be required to obtain for their use such referenced documents from the NYCDPR. The NYCDPR Specifications described above neither imply the NYCDPR's involvement in any testing and approval of materials, nor in the supervision of construction.

Items listed in this Bid Schedule beginning with the prefix "SL-" (e.g. SL-21.09.01) are Street Lighting Items, less the prefix, which shall be done in accordance with the requirements of Sub-Section 1.06.23.(D) and Section 1.06.49 in the Standard Highway Specifications.

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Project ID P-USTA1

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 several classes of work 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 5 shall be the product of the Estimated Quantity in Column 2 times the Unit Price Bid in Column 4.

(5) Prospective bidders must examine the Bid Schedule carefully and, before bidding, must advise the Commissioner, in writing, if any pages are missing, and must request that such missing pages be furnished them. The pages of this Bid Schedule are numbered consecutively, as follows: B - 3 through B - 61

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4.02 CB (001)	122.0 TONS	ASPHALTIC CONCRETE MIXTURE	$	.	$	.
4.02 I1-6 (002)	5,843.0 S.Y.	ASPHALTIC MACADAM BASE COURSE, TYPE I-1 MIX, 6" THICK	$	.	$	.
4.02 I4-2 (003)	537.0 S.Y.	ASPHALTIC CONCRETE WEARING COURSE, TYPE I-4 MIX, 2" THICK	$	.	$	.
4.02 I4-3 (004)	5,843.0 S.Y.	ASPHALTIC CONCRETE WEARING COURSE, TYPE I-4 MIX, 3" THICK	$	.	$	.

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4.08 AJ (005)	3,130.0 L.F.	CONCRETE CURB (27" DEEP)	$	.	$	.
4.11 CA (006)	275.0 C.Y.	FILL, PLACE MEASUREMENT	$	.	$	.
4.13 AAS (007)	836.0 S.F.	4" CONCRETE SIDEWALK (UNPIGMENTED)	$	.	$	.
4.13 BAS (008)	452.0 S.F.	7" CONCRETE SIDEWALK (UNPIGMENTED)	$	.	$	.

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4.13 BR (009)	530.0 S.F.	7" REINFORCED CONCRETE SIDEWALK (UNPIGMENTED)	$	.	$	.
4.13 DE (010)	110.0 S.F.	EMBEDDED PREFORMED DETECTABLE WARNING UNITS	$	.	$	.
4.14 (011)	368.0 LBS.	STEEL REINFORCEMENT BARS	$	.	$	.
50.21M3C024D (012)	241.0 L.F.	24" R.C.P. CLASS III STORM SEWER, ON CONCRETE CRADLE	$	.	$	.

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50.31MC18 (013)	264.0 L.F.	18" E.S.V.P. STORM SEWER, ON CONCRETE CRADLE	$	.	$	.
51.21S0A1000V (014)	3.0 EACH	STANDARD MANHOLE TYPE A-1	$	.	$	.
51.23RF (015)	4.0 EACH	REPLACEMENT OF EXISTING MANHOLE FRAME AND COVER	$	.	$	.
51.41S001 (016)	7.0 EACH	STANDARD CATCH BASIN, TYPE 1	$	.	$	.

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52.11D12 (017)	201.0 L.F.	12" DUCTILE IRON PIPE BASIN CONNECTION	$	.	$	.
53.11DR (018)	505.0 L.F.	TELEVISION INSPECTION AND DIGITAL AUDIO-VISUAL RECORDING OF SEWERS	$	.	$	.
55.11AB (019)	3.0 EACH	ABANDONING BASINS AND INLETS	$	.	$	.
6.02 AAN (020)	9,724.0 C.Y.	UNCLASSIFIED EXCAVATION	$	.	$	.

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6.19 SBTA (021)	771.0 L.F.	FURNISHING AND INSTALLING STEEL BACKED TIMBER GUIDE RAIL WITH TIMBER POSTS AND BLOCK-OUTS	$	.	$	.
6.19 SBTB (022)	2.0 EACH	FURNISHING AND INSTALLING APPROACH ANCHOR UNITS FOR STEEL BACKED TIMBER GUIDE RAIL WITH TIMBER POSTS AND BLOCK-OUTS	$	.	$	.
6.22 F (023)	110.0 LBS.	ADDITIONAL HARDWARE	$	.	$	.
6.25 RS (024)	561.0 S.F.	TEMPORARY SIGNS	$	.	$	.

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6.26 (025)	418.0 L.F.	TIMBER CURB	$	.	$	.
6.27 (026)	1.0 L.S.	DEMOLITION OF STRUCTURES	$	.	$	.
6.28 BA (027)	123.0 L.F.	LIGHTED TYPE III BREAKAWAY BARRICADES	$	.	$	.
6.31 WS (028)	6.0 EACH	PRECAST CONCRETE WHEEL STOPS	$	.	$	.

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6.34 AC (029)	1,883.0 L.F.	CHAIN LINK FENCE, 6'-0" HIGH	$	.	$	.
6.34 BC (030)	40.0 L.F.	CHAIN LINK FENCE GATE FOR 6'-0" HIGH FENCE	$	.	$	.
6.34 X (031)	277.0 L.F.	REMOVE AND DISPOSE OF EXISTING CHAIN LINK FENCE	$	.	$	.
6.36 DR (032)	11.0 C.Y.	STRUCTURAL REPAIR AND ADJUSTMENT OF UTILITY STRUCTURES	$	.	$	.

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6.40 D (033)	13.0 MONTH	ENGINEER'S FIELD OFFICE (TYPE D)	$	.	$	.
6.43 (034)	300.0 SETS	PHOTOGRAPHS	$	.	$	.
6.44 (035)	6,758.0 L.F.	THERMOPLASTIC REFLECTORIZED PAVEMENT MARKINGS (4" WIDE)	$	.	$	.
6.47 PCA2 (036)	673.0 S.Y.	PERMEABLE CONCRETE PAVERS ON STONE BASE	$	.	$	.

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6.49 (037)	675.0 L.F.	TEMPORARY PAVEMENT MARKINGS (4" WIDE)	$	.	$	.
6.50 (038)	11.0 EACH	CLEANING OF DRAINAGE STRUCTURES	$	.	$	.
6.52 (039)	1,839.0 P/HR	UNIFORMED FULL-TIME FLAGPERSON	$	.	$	.
6.53 (040)	3,710.0 L.F.	REMOVE EXISTING LANE MARKINGS (4" WIDE)	$	.	$	.

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6.55 (041)	3,483.0 L.F.	SAWCUTTING EXISTING PAVEMENT	$	.	$	.
6.59 P (042)	107.0 L.F.	TEMPORARY CONCRETE BARRIER	$	.	$	.
6.67 (043)	1,461.0 C.Y.	SUBBASE COURSE, SELECT GRANULAR MATERIAL	$	.	$	.
6.82 A (044)	36.0 S.F.	REMOVING EXISTING TRAFFIC AND STREET NAME SIGNS	$	.	$	.

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6.82 B (045)	74.0 L.F.	REMOVING EXISTING TRAFFIC AND STREET NAME SIGN POSTS	$	.	$	.
6.83 AB (046)	143.0 L.F.	FURNISHING NEW TRAFFIC SIGN POSTS	$	.	$	.
6.83 AR (047)	67.0 S.F.	FURNISHING NEW REFLECTORIZED TRAFFIC SIGNS	$	.	$	.
6.83 BA (048)	67.0 S.F.	INSTALLING TRAFFIC SIGNS	$	.	$	.

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6.83 BB (049)	143.0 L.F.	INSTALLING TRAFFIC SIGN POSTS	$	.	$	.
6.87 (050)	255.0 EACH	PLASTIC BARRELS	$	.	$	.
6.99 (051)	1.0 L.S.	AUDIO AND VIDEO DOCUMENTATION SURVEY	$	.	$	.
60.11R520 (052)	803.0 L.F.	FURNISHING AND DELIVERING 20-INCH DUCTILE IRON RESTRAINED JOINT PIPE (CLASS 55)	$	.	$	.

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60.11R606 (053)	81.0 L.F.	FURNISHING AND DELIVERING 6-INCH DUCTILE IRON RESTRAINED JOINT PIPE (CLASS 56)	$	.	$	.
60.11R608 (054)	113.0 L.F.	FURNISHING AND DELIVERING 8-INCH DUCTILE IRON RESTRAINED JOINT PIPE (CLASS 56)	$	.	$	.
60.12D06 (055)	85.0 L.F.	LAYING 6-INCH DUCTILE IRON PIPE AND FITTINGS	$	.	$	.
60.12D08 (056)	119.0 L.F.	LAYING 8-INCH DUCTILE IRON PIPE AND FITTINGS	$	.	$	.

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60.12D20 (057)	836.0 L.F.	LAYING 20-INCH DUCTILE IRON PIPE AND FITTINGS	$	.	$	.
60.13M0A24 (058)	5.5 TONS	FURNISHING AND DELIVERING DUCTILE IRON MECHANICAL JOINT 24-INCH DIAMETER AND SMALLER FITTINGS, INCLUDING WEDGE TYPE RETAINER GLANDS	$	.	$	.
61.11DMM06 (059)	3.0 EACH	FURNISHING AND DELIVERING 6-INCH MECHANICAL JOINT DUCTILE IRON GATE VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS	$	.	$	.
61.11DMM20 (060)	1.0 EACH	FURNISHING AND DELIVERING 20-INCH MECHANICAL JOINT DUCTILE IRON GATE VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS	$	.	$	.

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62.11SD (065)	3.0 EACH	FURNISHING AND DELIVERING HYDRANTS	$	.	$	.
62.12SG (066)	3.0 EACH	SETTING HYDRANTS COMPLETE WITH WEDGE TYPE RETAINER GLANDS	$	.	$	.
62.13RH (067)	3.0 EACH	REMOVING HYDRANTS	$	.	$	.
62.14FS (068)	6.0 EACH	FURNISHING, DELIVERING AND INSTALLING HYDRANT FENDERS	$	.	$	.

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61.11TWC08 (061)	1.0 EACH	FURNISHING AND DELIVERING 8-INCH WET CONNECTION TAPPING VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS	$	.	$	.
61.12DMM06 (062)	3.0 EACH	SETTING 6-INCH MECHANICAL JOINT DUCTILE IRON GATE VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS	$	.	$	.
61.12DMM20 (063)	1.0 EACH	SETTING 20-INCH MECHANICAL JOINT DUCTILE IRON GATE VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS	$	.	$	.
61.12TWC08 (064)	1.0 EACH	SETTING 8-INCH WET CONNECTION TAPPING VALVE COMPLETE WITH WEDGE TYPE RETAINER GLANDS	$	.	$	.

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63.11VC (069)	7.0 TONS	FURNISHING AND DELIVERING VARIOUS CASTINGS	$	.	$	.
64.13WC20 (070)	1.0 EACH	FURNISHING, DELIVERING AND INSTALLING WET CONNECTION SLEEVE ON 20-INCH WATER MAIN PIPE WITH VARIOUS OUTLETS	$	.	$	.
65.11BR (071)	440.0 LBS.	FURNISHING, DELIVERING AND INSTALLING BANDS, RODS, WASHERS, ETC., COMPLETE, FOR RESTRAINING JOINTS	$	.	$	.
65.21PS (072)	1,041.0 L.F.	FURNISHING AND PLACING POLYETHYLENE SLEEVE **Unit price bid shall not be less than: $ 0.50**	$	.	$	.

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65.31FF (073)	13,530.0 S.F.	FURNISHING, DELIVERING AND PLACING FILTER FABRIC **Unit price bid shall not be less than: $ 0.10**	$	.	$	.
65.71SG (074)	77.0 C.Y.	FURNISHING, DELIVERING AND PLACING SCREENED GRAVEL OR SCREENED BROKEN STONE BEDDING	$	.	$	.
7.12 A (075)	13.0 EACH	PROCTOR ANALYSIS	$	.	$	.
7.12 B (076)	13.0 EACH	IN-PLACE SOIL DENSITY TEST	$	.	$	.

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7.13 B (077)	7.0 MONTH	MAINTENANCE OF SITE **Unit price bid shall not be less than: $ 7,000.00**	$	.	$	.
7.16 D (078)	17.0 C.Y.	TEST PITS	$	.	$	.
7.36 (079)	502.0 L.F.	PEDESTRIAN STEEL BARRICADES	$	.	$	.
7.48 (080)	2,604.0 L.F.	UNDERDRAIN WRAPPED WITH FILTER FABRIC	$	.	$	.

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7.88 AA (081)	1.0 L.S.	RODENT INFESTATION SURVEY AND MONITORING **Unit price bid shall not be less than: $ 1,000.00**	$	.	$	.
7.88 AB (082)	47.0 EACH	RODENT BAIT STATIONS **Unit price bid shall not be less than: $ 60.00**	$	.	$	.
7.88 AC (083)	47.0 EACH	BAITING OF RODENT BAIT STATIONS **Unit price bid shall not be less than: $ 9.25**	$	.	$	.
7.88 AD (084)	4.0 BLOCK	WATERBUG BAIT APPLICATIONS **Unit price bid shall not be less than: $ 65.00**	$	.	$	.

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70.11CS (085)	7,955.0 V.F.	CONCRETE FILLED STEEL PIPE PILES **Unit price bid shall not be less than: $ 37.50**	$	.	$	.
70.13MN (086)	1,718.0 V.F.	MINI-PILES (GROUTED)	$	.	$	.
70.13MT (087)	1.0 EACH	MINI-PILES, LOAD TEST	$	.	$	.
70.31FN (088)	3,084.0 L.F.	FENCING **Unit price bid shall not be less than: $ 2.00**	$	.	$	.

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70.51EO (089)	6.0 C.Y.	EXCAVATION OF BOULDERS IN OPEN CUT **Unit price bid shall not be less than: $ 75.00**	$	.	$	.
70.61RE (090)	6.0 C.Y.	ROCK EXCAVATION	$	.	$	.
70.71SB (091)	57.0 C.Y.	STONE BALLAST **Unit price bid shall not be less than: $ 15.00**	$	.	$	.
70.81CB (092)	1,778.0 C.Y.	CLEAN BACKFILL **Unit price bid shall not be less than: $ 15.00**	$	.	$	.

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70.91SW12 (093)	1,078.0 S.F.	FURNISHING AND PLACING SHEETING AND BRACING IN TRENCH FOR WATER MAIN PIPE 12-INCH IN DIAMETER AND LESS	$	.	$	.
70.91SW20 (094)	10,340.0 S.F.	FURNISHING AND PLACING SHEETING AND BRACING IN TRENCH FOR WATER MAIN PIPE 20-INCH IN DIAMETER	$	.	$	.
73.21AC (095)	35.0 C.Y.	ADDITIONAL CONCRETE **Unit price bid shall not be less than: $ 62.50**	$	.	$	.
73.51AS (096)	7,390.0 LBS.	ADDITIONAL STEEL REINFORCING BARS **Unit price bid shall not be less than: $ 1.00**	$	.	$	.

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76.11CR (097)	1.0 L.S.	CONSTRUCTION REPORT	$	.	$	.
76.21MR (098)	1.0 L.S.	MONITORING AND POST-CONSTRUCTION REPORT	$	.	$	.
8.01 C1 (099)	200.0 TONS	HANDLING, TRANSPORTING AND DISPOSAL OF NON-HAZARDOUS CONTAMINATED SOIL	$	.	$	.
8.01 C2 (100)	6.0 SETS	SAMPLING AND TESTING OF CONTAMINATED/POTENTIALLY HAZARDOUS SOIL FOR DISPOSAL PURPOSES	$	.	$	.

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8.01 H (101)	4,300.0 TONS	HANDLING, TRANSPORTING AND DISPOSAL OF HAZARDOUS SOIL	$	.	$	.
8.01 S (102)	1.0 L.S.	HEALTH AND SAFETY	$	.	$	.
8.01 W1 (103)	14.0 DAY	REMOVAL, TREATMENT, AND DISCHARGE/DISPOSAL OF CONTAMINATED WATER	$	.	$	.
8.01 W2 (104)	2.0 SETS	SAMPLING AND TESTING OF WATER	$	.	$	.

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8.02 A (105)	836.0 S.F.	SPECIAL CARE EXCAVATION AND RESTORATION FOR SIDEWALK WORK	$	.	$	.
8.02 B (106)	172.0 L.F.	SPECIAL CARE EXCAVATION AND RESTORATION FOR CURB WORK	$	.	$	.
9.09 (107)	329.0 C.Y.	UNDERDRAIN FILTER, TYPE I	$	.	$	.
9.30 (108)	1.0 L.S.	STORM WATER POLLUTION PREVENTION	$	.	$	.

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E260513 A (109)	6,510.0 L.F.	MV 5 KV, (3) 1/C #4/0 AWG SHIELDED CABLE	$	.	$	.
E260513 B (110)	480.0 L.F.	MV 27 KV, (3) 1/C#500 MCM OR 3/C #500 MCM SHIELDED CABLE	$	.	$	.
E260513 C (111)	18.0 EACH	MV 5 KV, (3) 1/C #4/0 AWG SHIELDED CABLE SPLICE AND TERMINATION KIT	$	.	$	.
E260513 D (112)	4.0 EACH	MV 27 KV,(3)1/C #500 MCM OR 3/C #500 MCM SHIELDED CABLE SPLICE AND TERMINATION KIT	$	.	$	.

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E260513 E (113)	9.0 EACH	HIGH VOLTAGE TESTING MV 5 KV, (3) 1/C #4/0 AWG CABLE	$	.	$	.
E260513 F (114)	2.0 EACH	HIGH VOLTAGE TESTING MV 27 KV, (3) 1/C #500 MCM OR 3/C #500 MCM CABLE	$	.	$	.
E260513 G (115)	4,080.0 L.F.	DEMOLITION OF EXISTING MV 5 KV AND 27 KV CABLES	$	.	$	.
E260526 A (116)	9.0 EACH	COPPER CLAD GROUND RODS 1" DIA, 10 FEET LONG	$	.	$	.

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E260526 B (117)	6,500.0 L.F.	BARE #2 AWG COPPER GROUND WIRE	$	.	$	.
E260526 C (118)	360.0 L.F.	BARE #4/0 AWG COPPER GROUND CABLE	$	.	$	.
E260543 A (119)	2,410.0 L.F.	CONCRETE ENCASED DUCTBANK WITH SIX (6) 4" PVC CONDUITS ON ROADWAY	$	.	$	.
E260543 B (120)	360.0 L.F.	CONCRETE ENCASED DUCTBANK WITH SIX (6) 4" PVC CONDUITS IN LAWN AREA	$	.	$	.

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E260543 C (121)	1,250.0 L.F.	CONCRETE ENCASED DUCTBANK WITH FOUR (4) 4" PVC CONDUITS ON ROADWAY	$	.	$	.
E260543 D (122)	100.0 L.F.	CONCRETE ENCASED DUCTBANK WITH FOUR (4) 4" PVC CONDUITS IN LAWN AREA	$	.	$	.
E260543 E (123)	12.0 EACH	PREFABRICATED CONCRETE MANHOLE	$	.	$	.
E260543 F (124)	22,000.0 L.F.	NYLON PULL ROPE	$	.	$	.

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E260543 G (125)	400.0 L.F.	TRENCHING AND BACKFILLING EARTH - IN LAWN AREA	$	.	$	.
E260543 H (126)	3,710.0 L.F.	TRENCHING AND BACKFILLING EARTH - ON ROADWAY	$	.	$	.
E260543 I (127)	1,305.0 L.F.	DEMOLITION OF EXISTING CONCRETE ENCASED DUCTBANK	$	.	$	.
E260543 J (128)	1,065.0 L.F.	TRENCHING AND BACKFILLING EARTH FOR EXISTING DUCTBANK DEMOLITION	$	.	$	.

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E260553 A (129)	4,050.0 L.F.	WARNING TAPE	$		$	
EW-900T (130)	1.0 F.S.	ALLOWANCE FOR TELECOMMUNICATION PRICE BID SHALL BE FOR THE FIXED SUM OF $ 160,000.00	$ 160,000	00	$ 160,000	00
HW-900H (131)	1.0 F.S.	ALLOWANCE FOR CITY WORK ACCELERATION PRICE BID SHALL BE FOR THE FIXED SUM OF $ 50,000.00	$ 50,000	00	$ 50,000	00
PK-18 (132)	12,400.0 L.F.	RANGE FENCE 4'-0" HEIGHT	$		$	

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PK-227A (133)	14.0 S.Y.	GRANITE BLOCK PAVEMENT ON SAND	$	.	$	.
PK-22A (134)	3,905.0 L.F.	TREE PROTECTION FENCE	$	.	$	.
PK-22B (135)	12.0 EACH	TREE PROTECTION WRAP	$	.	$	.
PK-22C (136)	12.0 EACH	TEMPORARY WOODEN TREE GUARD	$	.	$	.

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PK-22D (137)	3,850.0 S.F.	ROOT AERATION MATTING	$	.	$	.
PK-22E (138)	385.0 L.F.	TEMPORARY SILT FENCE	$	.	$	.
PK-22F (139)	165.0 C.Y.	HAND AND SSAT EXCAVATION	$	.	$	.
PK-22G (140)	571.0 L.F.	MECHANICAL ROOT PRUNING	$	.	$	.

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PK-22H (141)	571.0 L.F.	SSAT ROOT PRUNING	$	.	$	.
PK-22J (142)	30.0 EACH TREE	TREE CANOPY AND CLEARANCE PRUNING	$	.	$	.
PK-22K (143)	262.0 DIA. INCH	TREE GROWTH REGULATOR (TREE PROTECTION)	$	.	$	.
PK-22L (144)	264.0 P/HR	CONSTRUCTION OVERSIGHT BY CONTRACT ARBORIST	$	.	$	.

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PK-22M (145)	16.0 VISIT	TREE CONDITION MONITORING (TREE PROTECTION)	$	.	$	.
PK-22N (146)	40.0 M/GAL	SUPPLEMENTAL WATER / TEMPORARY IRRIGATION (TREE PROTECTION)	$	.	$	.
PK-22P (147)	4.0 VISIT	SOIL CARE PROGRAM (TREE PROTECTION)	$	.	$	.
PK-23A (148)	1.0 EACH	MOBILIZE 90" SPADE	$	.	$	.

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PK-23B (149)	1.0 EACH	MOBILIZE 102" SPADE	$	.	$	.
PK-23C (150)	1.0 EACH	MOBILIZE 120" SPADE	$	.	$	.
PK-23D (151)	15.0 EACH	TRANSPLANT WITH 90" SPADE	$	.	$	.
PK-23E (152)	4.0 EACH	TRANSPLANT WITH 102" SPADE	$	.	$	.

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PK-23F (153)	3.0 EACH	TRANSPLANT WITH 120" SPADE	$	.	$	.
PK-23G (154)	232.0 DIA. INCH	TREE GROWTH REGULATOR (TRANSPLANTING)	$	.	$	.
PK-23H (155)	4.0 VISIT	SOIL CARE PROGRAM (TRANSPLANTING)	$	.	$	.
PK-23J (156)	25.0 M/GAL	SUPPLEMENTAL WATER / TEMPORARY IRRIGATION (TRANSPLANTING)	$	.	$	.

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PK-23K (157)	32.0 VISIT	TREE CONDITION MONITORING (TRANSPLANTING)	$	.	$	.
PK-26A (158)	4.0 EACH	TREE REMOVAL (6" TO UNDER 12" DBH)	$	.	$	.
PK-26B (159)	25.0 EACH	TREE REMOVAL (12" TO UNDER 18" DBH)	$	.	$	.
PK-26C (160)	5.0 EACH	TREE REMOVAL (18" TO UNDER 24" DBH)	$	.	$	.

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PK-26D (161)	7.0 EACH	TREE REMOVAL (24" TO UNDER 30" DBH)	$	.	$	.
PK-26E (162)	5.0 EACH	TREE REMOVAL (30" TO UNDER 36" DBH)	$	.	$	.
PK-26F (163)	1.0 EACH	TREE REMOVAL (36" DBH AND OVER)	$	.	$	.
PK-34 (164)	242.0 C.Y.	COMPOST (TRUCK MEASURE)	$	.	$	.

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PK-35 (165)	2,662.0 S.Y.	SHREDDED BARK MULCH	$	.	$	.
PK-366 (166)	141.0 L.F.	TIMBER BARRIER RAIL - ONE RAIL (TYPE C)	$	.	$	.
PK-37A (167)	814.0 C.Y.	TOPSOIL FOR PLANTING PITS AND BEDS	$	.	$	.
PK-38A (168)	44.0 C.Y.	TOPSOIL FOR SEEDED AND SODDED AREAS	$	.	$	.

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PK-454A (169)	1,760.0 LBS.	COMMERCIAL FERTILIZER LOW PHOSPHORUS (SLOW RELEASE)	$	.	$	.
PK-455 (170)	2,200.0 LBS.	LIMESTONE	$	.	$	.
PK-465 (171)	44,000.0 S.F.	SOD WITH COMPOST	$	.	$	.
PK-476A (172)	9.0 EACH	PLANT MATERIAL - ABIES CONCOLOR (6' TO 8' HT.)	$	.	$	.

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PK-476AA (173)	3.0 EACH	PLANT MATERIAL - QUERCUS PALUSTRIS (2.5" TO 3" CAL.)	$	.	$	.
PK-476B (174)	22.0 EACH	PLANT MATERIAL - ACER RUBRUM (2" TO 2.5" CAL.)	$	.	$	.
PK-476BB (175)	46.0 EACH	PLANT MATERIAL - QUERCUS PHELLOS (2.5" TO 3" CAL.)	$	.	$	.
PK-476C (176)	14.0 EACH	PLANT MATERIAL - AMELANCHIER CANADENSIS (8' TO 10' HT.)	$	.	$	.

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PK-476CC (177)	36.0 EACH	PLANT MATERIAL - QUERCUS RUBRA (2.5" TO 3" CAL.)	$	.	$	.
PK-476D (178)	20.0 EACH	PLANT MATERIAL - AMELANCHIER LAEVIS (8' TO 10' HT.)	$	.	$	.
PK-476DD (179)	10.0 EACH	PLANT MATERIAL - TAXODIUM DISTICHUM (2.5" TO 3" CAL.)	$	.	$	.
PK-476E (180)	13.0 EACH	PLANT MATERIAL - CARPINUS CAROLINIANA (2.5" TO 3" CAL.)	$	.	$	.

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PK-476EE (181)	9.0 EACH	PLANT MATERIAL - THUJA OCCIDENTALIS (6' TO 8' HT.)	$	.	$	.
PK-476F (182)	16.0 EACH	PLANT MATERIAL - CELTIS OCCIDENTALIS (2.5" TO 3" CAL.)	$	.	$	.
PK-476FF (183)	10.0 EACH	PLANT MATERIAL - TILIA AMERICANA (2.5" TO 3" CAL.)	$	.	$	.
PK-476G (184)	19.0 EACH	PLANT MATERIAL - CERCIS CANADENSIS (2" TO 2.5" CAL.)	$	.	$	.

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PK-476H (185)	10.0 EACH	PLANT MATERIAL - CERCIS CANADENSIS (8' TO 10' HT.)	$	.	$	.
PK-476J (186)	3.0 EACH	PLANT MATERIAL - CHAMAECYPARIS THYOIDES (6' TO 8' HT.)	$	.	$	.
PK-476K (187)	20.0 EACH	PLANT MATERIAL - CORNUS MAS (2.5" TO 3" CAL.)	$	.	$	.
PK-476L (188)	11.0 EACH	PLANT MATERIAL - CORNUS MAS (8' TO 10' HT.)	$	.	$	.

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PK-476M (189)	6.0 EACH	PLANT MATERIAL - GLEDITSIA TRIACANTHOS INERMIS (3" TO 3.5" CAL.)	$	.	$	.
PK-476N (190)	12.0 EACH	PLANT MATERIAL - GLEDITSIA TRIACANTHOS INERMIS (2.5" TO 3" CAL.)	$	.	$	.
PK-476P (191)	30.0 EACH	PLANT MATERIAL - ILEX OPACA (6' TO 8' HT.)	$	.	$	.
PK-476Q (192)	12.0 EACH	PLANT MATERIAL - JUNIPERUS VIRGINIANA (6' TO 8' HT.)	$	.	$	.

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PK-476R (193)	90.0 EACH	PLANT MATERIAL - LIQUIDAMBAR STYRACIFLUA (2.5" TO 3" CAL.)	$	.	$	.
PK-476S (194)	23.0 EACH	PLANT MATERIAL - LIRIODENDRON TULIPIFERA (2.5" TO 3" CAL.)	$	.	$	.
PK-476T (195)	60.0 EACH	PLANT MATERIAL - NYSSSA SYLVATICA (2" TO 2.5" CAL.)	$	.	$	.
PK-476V (196)	8.0 EACH	PLANT MATERIAL - PICEA ABIES (8' TO 10' HT.)	$	.	$	.

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COL. 1 ITEM NUMBER (SEQUENCE NO.)	COL. 2 ENGINEER'S ESTIMATE OF QUANTITIES	COL. 3 CLASSIFICATIONS	COL. 4 UNIT PRICES (IN FIGURES) DOLLARS	CTS	COL. 5 EXTENDED AMOUNTS (IN FIGURES) DOLLARS	CTS
PK-476W (197)	15.0 EACH	PLANT MATERIAL - PICEA OMORIKA (8' TO 10')	$	.	$	.
PK-476X (198)	23.0 EACH	PLANT MATERIAL - PINUS STROBUS (8' TO 10' HT.)	$	.	$	.
PK-476Y (199)	15.0 EACH	PLANT MATERIAL - PLATANUS X ACERIFOLIA (2.5" TO 3" CAL.)	$	.	$	.
PK-476Z (200)	55.0 EACH	PLANT MATERIAL - QUERCUS BICOLOR (2.5" TO 3" CAL.)	$	.	$	.

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

Contract PIN 8502014HW0007C
Project ID P-USTA1

COL. 1 ITEM NUMBER (SEQUENCE NO.)	COL. 2 ENGINEER'S ESTIMATE OF OUANTITIES	COL. 3 CLASSIFICATIONS	COL. 4 UNIT PRICES (IN FIGURES) DOLLARS	CTS	COL. 5 EXTENDED AMOUNTS (IN FIGURES) DOLLARS	CTS
SL-20.01.02 (201)	11.0 EACH	FURNISH AND INSTALL FOUNDATION FOR TYPE "WF" LAMPPOST, AS PER DRAWING E-5124	$	.	$	.
SL-20.02.02 (202)	8.0 EACH	FURNISH AND INSTALL STANDARD TYPE ANCHOR BOLT FOUNDATION, AS PER DRAWING E-3788	$	.	$	.
SL-20.08.01 (203)	8.0 EACH	REMOVE STANDARD TYPE ANCHOR BOLT CONCRETE FOUNDATION	$	.	$	.
SL-21.01.09 (204)	11.0 EACH	FURNISH AND INSTALL "WF" LAMPPOST WITHOUT TRANSFORMET BASE.	$	.	$	.

NEW YORK CITY DEPARTMENT OF DESIGN AND CONSTRUCTION
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Contract PIN 8502014HW0007C
Project ID P-USTA1

COL. 1 ITEM NUMBER (SEQUENCE NO.)	COL. 2 ENGINEER'S ESTIMATE OF QUANTITIES	COL. 3 CLASSIFICATIONS	COL. 4 UNIT PRICES (IN FIGURES) DOLLARS	CTS	COL. 5 EXTENDED AMOUNTS (IN FIGURES) DOLLARS	CTS
SL-21.03.24 (205)	8.0 EACH	FURNISH AND INSTALL 2S,6S,8S,12S FABRICATED STEEL DAVIT LAMPPOST WITH TRANSFORMER BASE AS PER DWG, J-5309.	$	.	$	.
SL-21.09.01 (206)	1.0 EACH	REMOVE PARK TYPE LAMPPOST ON FOUNDATION, WITH ALL ATTACHMENTS, IF ANY.	$	.	$	.
SL-21.09.05 (207)	8.0 EACH	REMOVE STANDARD FABRICATED STEEL, SPUN ALUMINUM NO. 10, ETC. WITH ARM(S), LUMINAIRE(S), CONTROL(S) WITH ALL ATTACHMENTS, IF ANY.	$	.	$	.
SL-22.01.02 (208)	11.0 EACH	FURNISH AND INSTALL TYPE 2085 100 WATT HIGH PRESSURE SODIUM LUMINAIRE WITH 55 VOLT LAMP.	$	.	$	.

NEW YORK CITY DEPARTMENT OF DESIGN AND CONSTRUCTION
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Contract PIN 8502014HW0007C
Project ID P-USTA1

COL. 1 ITEM NUMBER (SEQUENCE NO.)	COL. 2 ENGINEER'S ESTIMATE OF QUANTITIES	COL. 3 CLASSIFICATIONS	COL. 4 UNIT PRICES (IN FIGURES) DOLLARS	CTS	COL. 5 EXTENDED AMOUNTS (IN FIGURES) DOLLARS	CTS
SL-22.16.05 (209)	8.0 EACH	FURNISH AND INSTALL ROADWAY TYPE LED FIXTURE AS PER SPECIFICATION 466 WITH PEC RECEPTACLE AND PEC	$	.	$	.
SL-23.01.17 (210)	2.0 EACH	INSTALL UNDER DECK LUMINAIRE SPECIFICATION # 464, LAMP FURNISH BY CONTRACTOR	$	.	$	.
SL-23.01.18 (211)	2.0 EACH	FURNISH LED UNDER DECK LUMINAIRE AS PER SPECIFICATION #464	$	.	$	.
SL-23.04.02 (212)	2.0 EACH	REMOVE LUMINAIRE (SIGNLITE, WALLPACK, UNDERDECK, RECESSED, ETC.) SURFACE MOUNTED ON STRUCTURE OR UNDERPASS WITH ALL APPURTENANT EQUIPMENT	$	.	$	.

NEW YORK CITY DEPARTMENT OF DESIGN AND CONSTRUCTION
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Contract PIN 8502014HW0007C
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COL. 1 ITEM NUMBER (SEQUENCE NO.)	COL. 2 ENGINEER'S ESTIMATE OF QUANTITIES	COL. 3 CLASSIFICATIONS	COL. 4 UNIT PRICES (IN FIGURES) DOLLARS	CTS	COL. 5 EXTENDED AMOUNTS (IN FIGURES) DOLLARS	CTS
SL-25.01.16 (213)	11.0 EACH	FURNISH AND INSTALL POLE CAP ADAPTER	$	.	$	.
SL-27.01.01 (214)	21.0 EACH	FURNISH AND INSTALL ALUMINUM TAG ON A LAMPPOST, AS PER DRAWING D-2861	$	.	$	.
SL-29.01.01 (215)	10.0 EACH	FURNISH, INSTALL, MAINTAIN AND REMOVE EQUIPMENT FOR TEMPORARY LIGHTING (PYLON), AS PER DRAWINGS F-5005 AND F-5005A	$	.	$	.
SL-31.01.02 (216)	11.0 EACH	PAINT A PARK OR PEDESTRIAN TYPE LAMPPOST (TYPE "B", "BB", "E", "WF", ETC.)	$	.	$	.

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COL. 1 ITEM NUMBER (SEQUENCE NO.)	COL. 2 ENGINEER'S ESTIMATE OF QUANTITIES	COL. 3 CLASSIFICATIONS	COL. 4 UNIT PRICES (IN FIGURES) DOLLARS	CTS	COL. 5 EXTENDED AMOUNTS (IN FIGURES) DOLLARS	CTS
SL-32.02.01 (217)	11.0 EACH	FURNISH AND INSTALL AN IN-LINE FUSE HOLDER WITH LIMITER (BUSS FUSE OR EQUAL) FOR NO. 6 AWG CABLE	$	.	$	.
SL-33.01.01 (218)	900.0 L.F.	FURNISH AND INSTALL NO. 12 AWG XLP COPPER WIRE OR EQUAL IN CONDUIT	$	.	$	.
SL-33.01.02 (219)	80.0 L.F.	FURNISH AND INSTALL NO. 6 AWG XLP COPPER CABLE OR EQUAL IN CONDUIT	$	.	$	.
SL-33.01.04 (220)	6,700.0 L.F.	FURNISH AND INSTALL NO. 2/0 AWG XLP COPPER CABLE OR EQUAL IN CONDUIT	$	.	$	.

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

Contract PIN 8502014HW0007C
Project ID P-USTA1

COL. 1 ITEM NUMBER (SEQUENCE NO.)	COL. 2 ENGINEER'S ESTIMATE OF QUANTITIES	COL. 3 CLASSIFICATIONS	COL. 4 UNIT PRICES (IN FIGURES) DOLLARS	CTS	COL. 5 EXTENDED AMOUNTS (IN FIGURES) DOLLARS	CTS
SL-33.01.10 (221)	25.0 L.F.	REMOVE CONDUCTORS FROM EXISTING CONDUITS OR DUCTS	$	.	$	.
SL-33.03.01 (222)	30.0 L.F.	FURNISH AND INSTALL #6 BARE COPPER CONDUCTOR IN CONDUIT OR OVERHEAD.	$	.	$	.
SL-35.01.05 (223)	300.0 L.F.	FURNISH AND INSTALL 3" HOT DIPPED GALVANIZED STEEL CONDUIT IN PAVED AREA.	$	.	$	.
SL-35.03.03 (224)	120.0 L.F.	FURNISH AND INSTALL 1-1/2" HOT DIPPED GALVANIZED STEEL CONDUIT IN UNPAVED AREA	$	.	$	.

NEW YORK CITY DEPARTMENT OF DESIGN AND CONSTRUCTION
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Contract PIN 8502014HW0007C
Project ID P-USTA1

COL. 1 ITEM NUMBER (SEQUENCE NO.)	COL. 2 ENGINEER'S ESTIMATE OF OUANTITIES	COL. 3 CLASSIFICATIONS	COL. 4 UNIT PRICES (IN FIGURES) DOLLARS	CTS	COL. 5 EXTENDED AMOUNTS (IN FIGURES) DOLLARS	CTS
SL-35.03.05 (225)	1,600.0 L.F.	FURNISH AND INSTALL 3" HOT DIPPED GALVANIZED STEEL CONDUIT IN UNPAVED AREA.	$	.	$	.
SL-37.05.09 (226)	23.0 EACH	FURNISH AND INSTALL TYPE 2418 ROADWAY CONCRETE BOX WITH CAST IRON FRAME AND COVER WITH TAMPER PROOF BOLTS AS PER DWG J-3179B.	$	.	$	.

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

Contract PIN 8502014HW0007C
Project ID P-USTA1

COL. 1 ITEM NUMBER (SEQUENCE NO.)	COL. 2 ENGINEER'S ESTIMATE OF OUANTITIES	COL. 3 CLASSIFICATIONS	COL. 4 UNIT PRICES (IN FIGURES) DOLLARS / CTS	COL. 5 EXTENDED AMOUNTS (IN FIGURES) DOLLARS / CTS
			SUB-TOTAL:	$_____ . __
6.39 A (227)	1.0 LUMP SUM	MOBILIZATION PRICE BID SHALL NOT EXCEED 4% OF THE ABOVE SUB-TOTAL PRICE.		$_____ . __
			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.

(NO TEXT ON THIS PAGE)

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

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

PROJECT ID: P-USTA1

USTA UN AVENUE
CONNECTOR ROAD
RELOCATION

MERIDIAN ROAD – FROM EXISTING CONNECTOR ROAD TO QUEENS MUSEUM OF ART
NEW CONNECTOR ROAD – FROM MERIDIAN ROAD TO UNITED NATIONS AVENUE N

INCLUDING MERIDIAN ROAD WIDENING, NEW CONNECTOR ROAD, SEWER, WATER MAIN, CATCH BASIN, ELECTRICAL, TELECOMMUNICATION, STREET LIGHTING, AND LANDSCAPE WORK

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

Name of Bidder: _____

Date of Bid Opening: _____

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

Place of Business of Bidder: _____

Bidder's Telephone Number: _____ Fax Number: _____

Bidder's E-Mail Address: _____

Residence of Bidder (If Individual): _____

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

Names of Partners	Residence of Partners
_____	_____
_____	_____
_____	_____

If Bidder is a Corporation, fill in the following blanks:
Organized under the laws of the State of _____

Name and Home Address of President: _____

_____

Name and Home Address of Secretary: _____

_____

Name and Home Address of Treasurer: _____

_____

BID FORM

The above-named Bidder affirms and declares:

1. The said bidder is of lawful age and the only one interested in this bid; and no person, firm or corporation other than hereinbefore named has any interest in this bid, or in the Contract proposed to be taken.

2. By submission of this bid, each bidder and each person signing on behalf of any bidder certifies, and in the case of a joint bid each party thereto certifies as to its own organization, under penalty of perjury, that to the best of its knowledge and belief: (1) the prices in this bid have been arrived at independently without collusion, consultation, communication or agreement, for the purpose of restricting competition, as to any matter relating to such prices with any other bidder or with any competitor; (2) unless otherwise required by law, the prices quoted in this bid have not been knowingly disclosed by the bidder and will not knowingly be disclosed by the bidder prior to opening, directly or indirectly, to any other bidder or to any competitor; and (3) No attempt has been made or will be made by the bidder to induce any other person, partnership or corporation to submit or not to submit a bid for the purpose of restricting competition.

3. No councilman or other officer or employee or person whose salary is payable in whole or in part from the City Treasury is directly or indirectly interested in this bid, or in the supplies, materials, equipment, work or labor to which it relates, or in any of the profits thereof.

4. The bidder is not in arrears to the City of New York upon debt or contract or taxes, and is not a defaulter, as surety or otherwise, upon any obligation of the City of New York, and has not been declared not responsible, or disqualified, by any agency of the City of New York or State of New York, nor is there any proceeding pending relating to the responsibility or qualification of the bidder to receive public contracts except as set forth on the Affirmation included as page C-6 of this Bid Booklet.

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

5. The bidder, as an individual, or as a member, partner, director or officer of the bidder, if the same be a firm, partnership or corporation, executes this document expressly warranting and representing that should this bid be accepted by the City and the Contract awarded to him, he and his subcontractors engaged in the performance: (1) will comply with the provisions of Section 6-108 of the Administrative Code of the City of New York and the non-discrimination provisions of Section 220a of the New York State Labor Law, as more expressly and in detail set forth in the Agreement; (2) will comply with Section 6-109 of the Administrative Code of the City of New York in relation to minimum wages and other stipulations as more expressly and in detail set forth in the Agreement; (3) have complied with the provisions of the aforesaid laws since their respective effective dates, and (4) will post notices to be furnished by the City, setting forth the requirements of the aforesaid laws in prominent and conspicuous places in each and every plant, factory, building and structure where employees engaged in the performance of the Contract can readily view it, and will continue to keep such notices posted until the supplies, materials and equipment, or work labor and services required to be furnished or rendered by the Contractor have been finally accepted by the City. In the event of any breach or violation of the foregoing, the Contractor may be subject to damages, liquidated or otherwise, cancellation of the Contract and suspension as a bidder for a period of three years. (The words, "the bidder", "he", "his", and "him" where used herein shall mean the individual bidder, firm, partnership or corporation executing this bid).

6. Compliance Report

The bidder, as an individual, or as a member, partner, director, or officer of the bidder, if the same be a firm, partnership, or corporation, (1) represents that his attention has been specifically drawn to Executive Order No. 50, dated, April 25, 1980, on Equal Employment Compliance of the contract, and (2) warrants that he will comply with the provisions of Executive Order No. 50. The Employment Report must be submitted as part of the bid.

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

7. By submission of this bid, the bidder certifies that it now has and will continue to have the financial capability to fully perform the work required for this contract. Any award of this contract will be made in reliance upon such certification. Upon request therefor, the bidder will submit written verification of such financial capability in a form that is acceptable to the department.

8. In accordance with Section 165 of the State Finance Law, the bidder agrees that tropical hardwoods, as defined in Section 165 of the State Finance Law, shall not be utilized in the performance of this Contract, except as the same are permitted by the foregoing provision of law.

9. The bidder has visited and examined the site of the work and has carefully examined the Contract in the form approved by the Corporation Counsel, and will execute the Contract and perform all its items, covenants and conditions, and will provide, furnish and deliver all the work, materials, supplies, tools and appliances for all labor and materials necessary or required for the hereinafter named work, all in strict conformity with the Contract, for the prices set forth in the Bid Schedule:

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

Section V: Vendor Certification and Required Affirmations:

I hereby:

1) acknowledge my understanding of the M/WBE participation requirements as set forth in this Contract and the pertinent provisions of Section 6-129 of the Administrative Code of the City of New York and the rules promulgated thereunder;
2) affirm that the information supplied in support of the M/WBE Utilization Plan is true and correct;
3) agree, if awarded this Contract, to comply with the M/WBE participation requirements of this Contract, the pertinent provisions of Section 6-129, and the rules promulgated thereunder, all of which shall be deemed to be material terms of this Contract;
4) agree and affirm that it is a material term of this Contract that the Vendor will award the total dollar value of the M/WBE Participation Goals to certified MBEs and/or WBEs, unless a full waiver is obtained or such goals are modified by the Agency; and
5) agree and affirm, if awarded this Contract, to make all reasonable, good faith efforts to meet the M/WBE Participation Goals, or If a partial waiver is obtained or such goals are modified by the Agency, to meet the modified Participation Goals by soliciting and obtaining the participation of certified MBE and/or WBE firms.

(NO TEXT ON THIS PAGE)

BID FORM

PROJECT ID. P-USTA1

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

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

BIDDER'S SIGNATURE AND AFFIDAVIT

Bidder:_____

By: _____
(Signature of Partner or corporate officer)

_____

Attest: Secretary of Corporate Bidder
(Corporate Seal)

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

BID FORM (TO BE NOTARIZED)

AFFIDAVIT WHERE BIDDER IS AN INDIVIDUAL

STATE OF NEW YORK, COUNTY OF_____ ss:

_____ being duly sworn says:

I am the person described in and who executed the foregoing bid, and the several matters therein stated are in all respects true.

_____

(Signature of the person who signed the Bid)

Subscribed and sworn to before me this

_____ day of_____, _____

_____

Notary Public

AFFIDAVIT WHERE BIDDER IS A PARTNERSHIP

STATE OF NEW YORK, COUNTY OF_____ ss:

_____ being duly sworn says:

I am a member of _____ the firm described in and which executed the foregoing bid. I subscribed the name of the firm thereto on behalf of the firm, and the several matters therein stated are in all respects true.

_____

(Signature of Partner who signed the Bid)

Subscribed and sworn to before me this

_____ day of_____, _____

_____

Notary Public

AFFIDAVIT WHERE BIDDER IS A CORPORATION

STATE OF NEW YORK, COUNTY OF_____ ss:

_____ being duly sworn says:

I am the _____ of the above named corporation whose name is subscribed to and which executed the foregoing bid. I reside at _____.

I have knowledge of the several matters therein stated, and they are in all respects true.

_____

(Signature of Corporate Officer who signed the Bid)

Subscribed and sworn to before me this

_____ day of_____, _____

_____

Notary Public

AFFIRMATION

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

_____

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

Full Name of Bidder: _____

Address: _____

City _____ State _____ Zip Code _____

CHECK ONE BOX AND INCLUDE APPROPRIATE NUMBER:

/__/ A - Individual or Sole Proprietorship*
SOCIAL SECURITY NUMBER

- - - - - - - - - - - -

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

- - - - - - - - - - - -

/__/ C- Corporation
EMPLOYER IDENTIFICATION NUMBER

- - - - - - - - - - - -

By: _____
Signature

Title: _____

If a corporation, place seal here

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

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

(NO TEXT ON THIS PAGE)

BID BOND 1
FORM OF BID BOND

KNOW ALL MEN BY THESE PRESENTS. That we,_____
_____
_____

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

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

_____

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

Whereas, the Principal is about to submit (or has submitted) to the City the accompanying proposal, hereby made a part hereof, to enter into a contract in writing for _____

_____

_____

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

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

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

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

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

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

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

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

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

(Seal) _____(L.S.)
Principal

By: _____

(Seal) _____
Surety

By: _____

BID BOND 3

ACKNOWLEDGMENT OF PRINCIPAL, IF A CORPORATION

State of _____ County of _____ ss:
On this _____ day of _____, _____, before me personally came _____ to me known, who, being by me duly sworn, did depose and say that he resides at _____ that he is the _____ of _____ the corporation described in and which executed the foregoing instrument; that he knows the seal of said corporation; that one of the seals affixed to said instrument is such seal; that it was so affixed by order of the directors of said corporation, and that he signed his name thereto by like order.

_____
Notary Public

ACKNOWLEDGMENT OF PRINCIPAL, IF A PARTNERSHIP

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

_____
Notary Public

ACKNOWLEDGMENT OF PRINCIPAL, IF AN INDIVIDUAL

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

_____
Notary Public

AFFIX ACKNOWLEDGMENTS AND JUSTIFICATION OF SURETIES

(NO TEXT ON THIS PAGE)

M/WBE PROGRAM

M/WBE UTILIZATION PLAN

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

Schedule B: M/WBE Utilization Plan: Schedule B: M/WBE Utilization Plan for this Contract is set forth in this Bid Booklet on the pages following the section entitled "Notice to All Prospective Contractors". The M/WBE Utilization Plan (Part I) indicates whether Participation Goals have been established for this Contract. If Participation Goals have been established for this Contract, the bidder must submit an M/WBE Utilization Plan (Part II) with its bid.

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

Rejection of the Bid: The bidder must complete Schedule B: M/WBE Utilization Plan (Part II) set forth in this Bid Booklet on the pages following the section entitled "Notice to All Prospective Contractors". A Schedule B submitted by the bidder which does not include the Vendor Certification and Required Affirmations (See Section V of Part II) will be deemed to be non-responsive, unless a full waiver of the Participation Goals is granted (Schedule B, Part III). In the event that the City determines that the bidder has submitted a Schedule B where the Vendor Certification and Required Affirmations are completed but other aspects of the Schedule B are not complete, or contain a copy or computation error that is at odds with the Vendor Certification and Required Affirmations, the bidder will be notified by the Agency and will be given four (4) calendar days from receipt of notification to cure the specified deficiencies and return a completed Schedule B to the Agency. Failure to do so will result in a determination that the Bid is non-responsive. Receipt of notification is defined as the date notice is emailed or faxed (if the bidder has provided an email address or fax number), or no later than five (5) calendar days from the date of mailing or upon delivery, if delivered.

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

NOTICE TO ALL PROSPECTIVE CONTRACTORS

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

ARTICLE I. M/WBE PROGRAM

Local Law No. 129 of 2005 added and Local Law 1 of 2013 amended Section 6-129 of the Administrative Code of the City of New York (hereinafter "Section 6-129"). Section 6-129 establishes the program for participation in City procurement ("M/WBE Program") by minority- owned business enterprises ("MBEs") and women-owned business enterprises ("WBEs"), certified in accordance with Section 1304 of the New York City Charter. As stated in Section 6-129, the intent of the program is to address the impact of discrimination on the City's procurement process, and to promote the public interest in avoiding fraud and favoritism in the procurement process, increasing competition for City business, and lowering contract costs. The contract provisions contained herein are pursuant to Section 6-129, and the rules of the Department of Small Business Services ("DSBS") promulgated thereunder.

If this Contract is subject to the M/WBE Program established by Section 6-129, the specific requirements of MBE and/or WBE participation for this Contract are set forth in Schedule B of the Contract (entitled the "M/WBE Utilization Plan"), and are detailed below. The Contractor must comply with all applicable MBE and WBE requirements for this Contract.

All provisions of Section 6-129 are hereby incorporated in the Contract by reference and all terms used herein that are not defined herein shall have the meanings given such terms in Section 6-129. Article I, Part A, below, sets forth provisions related to the participation goals for construction, standard and professional services contracts. Article I, Part B, below, sets forth miscellaneous provisions related to the M/WBE Program.

PART A

PARTICIPATION GOALS FOR CONSTRUCTION, STANDARD AND PROFESSIONAL SERVICES CONTRACTS OR TASK ORDERS

1. The **MBE and/or WBE Participation Goals** established for this Contract or Task Orders issued pursuant to this Contract, ("**Participation Goals**"), as applicable, are set forth on Schedule B, Part I to this Contract (see Page 1, line 1 Total Participation Goals) or will be set forth on Schedule B, Part I to Task Orders issued pursuant to this Contract, as applicable.

The **Participation Goals** represent a percentage of the total dollar value of the Contract or Task Order, as applicable, that may be achieved by awarding subcontracts to firms certified with New York City Department of Small Business Services as MBEs and/or WBEs, and/or by crediting the participation of prime contractors and/or qualified joint ventures as provided in Section 3 below, unless the goals have been waived or modified by Agency in accordance with Section 6-129 and Part A, Sections 10 and 11 below, respectively.

2. If **Participation Goals** have been established for this Contract or Task Orders issued pursuant to this Contract, Contractor agrees or shall agree as a material term of the Contract that Contractor shall be subject to the **Participation Goals**, unless the goals are waived or modified by Agency in accordance with Section 6-129 and Part A, Sections 10 and 11 below, respectively.

3. If **Participation Goals** have been established for this Contract or Task Order issued pursuant to this Contract, a Contractor that is an MBE and/or WBE shall be permitted to count its own participation toward fulfillment of the relevant **Participation Goal**, provided that in accordance with Section 6-129 the value of Contractor's participation shall be determined by subtracting from the total value of the Contract or Task Order, as applicable, any amounts that the Contractor pays to direct subcontractors (as defined in Section 6-129(c)(13)), and provided further that a Contractor that is certified as both an MBE and a WBE may count its own participation either toward the goal for MBEs or the goal for WBEs, but not both.

A Contractor that is a qualified joint venture (as defined in Section 6-129(c)(30)) shall be permitted to count a percentage of its own participation toward fulfillment of the relevant **Participation Goal.** In accordance with Section 6-129, the value of Contractor's participation shall be determined by subtracting from the total value of the Contract or Task Order, as applicable, any amounts that Contractor pays to direct subcontractors, and then multiplying the remainder by the percentage to be applied to total profit to determine the amount to which an MBE or WBE is entitled pursuant to the joint venture agreement, provided that where a participant in a joint venture is certified as both an MBE and a WBE, such amount shall be counted either toward the goal for MBEs or the goal for WBEs, but not both.

4. A. If **Participation Goals** have been established for this Contract, a prospective contractor shall be required to submit with its bid or proposal, as applicable, a completed Schedule B, M/WBE Utilization Plan, Part II (see Pages 2-4) indicating: (a) whether the contractor is an MBE or WBE, or qualified joint venture; (b) the percentage of work it intends to award to direct subcontractors; and (c) in cases where the contractor intends to award direct subcontracts, a description of the type and dollar value of work designated for participation by MBEs and/or WBEs, and the time frames in which such work is scheduled to begin and end. In the event that this M/WBE Utilization Plan indicates that the bidder or proposer, as applicable, does not intend to meet the **Participation Goals**, the bid or proposal, as applicable, shall be deemed non-responsive, unless Agency has granted the bidder or proposer, as applicable, a pre- award waiver of the Participation Goals in accordance with Section 6-129 and Part A, Section 10 below.

B. (i) If this Contract is for a master services agreement or other requirements type contract that will result in the issuance of Task Orders that will be individually registered ("Master Services Agreement") and is subject to M/WBE **Participation Goals**, a prospective contractor shall be required to submit with its bid or proposal, as applicable, a completed Schedule B, M/WBE Participation Requirements for Master Services Agreements That Will Require Individually Registered Task Orders, Part II (page 2) indicating the prospective contractor's certification and required affirmations to make all reasonable good faith efforts to meet participation goals established on each individual Task Order issued pursuant to this Contract, or if a partial waiver is obtained or such goals are modified by the Agency, to meet the modified **Participation Goals** by soliciting and obtaining the participation of certified MBE and/or WBE firms. In the event that the Schedule B indicates that the bidder or proposer, as applicable, does not intend to meet the **Participation Goals** that may be established on Task Orders issued pursuant to this Contract, the bid or proposal, as applicable, shall be deemed nonresponsive.

(ii) **Participation Goals** on a Master Services Agreement will be established for individual Task Orders issued after the Master Services Agreement is awarded. If **Participation Goals** have been established on a Task Order, a contractor shall be required to submit a Schedule B – M/WBE Utilization Plan For Independently Registered Task Orders That Are Issued Pursuant to Master Services Agreements, Part II (see Pages 2-4) indicating: (a) whether the contractor is an MBE or WBE, or qualified joint venture; (b) the percentage of work it intends to award to direct subcontractors; and (c) in cases where the contractor intends to award direct subcontracts, a description of the type and dollar value of work designated for participation by MBEs and/or WBEs, and the time frames in which such work is scheduled to begin and end. The contractor must engage in good faith efforts to meet the **Participation Goals** as established for the Task Order unless Agency has granted the contractor a pre-award waiver of the Participation Goals in accordance with Section 6-129 and Part A, Section 10 below.

C. THE BIDDER/PROPOSER MUST COMPLETE THE SCHEDULE B INCLUDED HEREIN (SCHEDULE B, PART II). A SCHEDULE B SUBMITTED BY THE BIDDER/PROPOSER WHICH DOES NOT INCLUDE THE VENDOR CERTIFICATION AND REQUIRED AFFIRMATIONS (SEE SECTION V OF PART II) WILL BE DEEMED TO BE NON-RESPONSIVE, UNLESS A FULL WAIVER OF THE PARTICIPATION GOALS IS GRANTED (SCHEDULE B, PART III). IN THE EVENT THAT THE CITY DETERMINES THAT THE BIDDER/PROPOSER HAS SUBMITTED A SCHEDULE B WHERE THE VENDOR CERTIFICATION AND REQUIRED AFFIRMATIONS ARE COMPLETED BUT OTHER ASPECTS OF THE SCHEDULE B ARE NOT COMPLETE, OR CONTAIN A COPY OR COMPUTATION ERROR THAT IS AT ODDS WITH THE VENDOR CERTIFICATION AND AFFIRMATIONS, THE BIDDER/PROPOSER WILL BE NOTIFIED BY THE AGENCY AND WILL BE GIVEN FOUR (4) CALENDAR DAYS FROM RECEIPT OF NOTIFICATION TO CURE THE SPECIFIED DEFICIENCIES AND RETURN A COMPLETED SCHEDULE B TO THE AGENCY. FAILURE TO DO _

SO WILL RESULT IN A DETERMINATION THAT THE BID/PROPOSAL IS NON-RESPONSIVE. RECEIPT OF NOTIFICATION IS DEFINED AS THE DATE NOTICE IS E-MAILED OR FAXED (IF THE BIDDER/PROPOSER HAS PROVIDED AN E-MAIL ADDRESS OR FAX NUMBER), OR NO LATER THAN FIVE (5) CALENDAR DAYS FROM THE DATE OF MAILING OR UPON DELIVERY, IF DELIVERED.

5. Where an **M/WBE** Utilization Plan has been submitted, the Contractor shall, within 30 days of issuance by Agency of a notice to proceed, submit a list of proposed persons or entities to which it intends to award subcontracts within the subsequent 12 months. In the case of multiyear contracts, such list shall also be submitted every year thereafter. The Agency may also require the Contractor to report periodically about the contracts awarded by its direct subcontractors to indirect subcontractors (as defined in Section 6-129(c)(22)). **PLEASE NOTE: If this Contract is a public works project subject to GML §101(5) (i.e., a contract valued at or below $3M for projects in New York City) or if the Contract is subject to a project labor agreement in accordance with Labor Law §222, and the bidder is required to identify at the time of bid submission its intended subcontractors for the Wicks trades (plumbing and gas fitting; steam heating, hot water heating, ventilating and air conditioning (HVAC); and electric wiring), the Contractor must identify all those to which it intends to award construction subcontracts for any portion of the Wicks trade work at the time of bid submission, regardless of what point in the life of the contract such subcontracts will occur. In identifying intended subcontractors in the bid submission, bidders may satisfy any Participation Goals established for this Contract by proposing one or more subcontractors that are MBEs and/or WBEs for any portion of the Wicks trade work.** In the event that the Contractor's selection of a subcontractor is disapproved, the Contractor shall have a reasonable time to propose alternate subcontractors.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

PART B: MISCELLANEOUS

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

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

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

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

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

ARTICLE II. ENFORCEMENT

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

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

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

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

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

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

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

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

Tax ID #: _____ APT E-PIN #: 85014B0032

SCHEDULE B – M/WBE Utilization Plan
Part I: M/WBE Participation Goals

Part I to be completed by contracting agency

Contract Overview

APT E- Pin # 85014B0032 **FMS Project ID#:** P-USTA1

Project Title/ Agency PIN # USTA UN AVENUE CONNECTOR ROAD RELOCATION / 8502014HW0007C

Bid/Proposal Response Date OCTOBER 10, 2013

Contracting Agency Department of Design and Construction

Agency Address 30-30 Thomson Ave. **City** Long Island City **State** NY **Zip Code** 11101

Contact Person Jessica Lavides **Title** MWBE Liaison & Compliance Analyst

Telephone # (718) 391-1065 **Email** LavidesJe@ddc.nyc.gov

Project Description *(attach additional pages if necessary)*

USTA UN AVENUE
CONNECTOR ROAD
RELOCATION

MERIDIAN ROAD – FROM EXISTING CONNECTOR ROAD TO QUEENS MUSEUM OF ART
NEW CONNECTOR ROAD – FROM MERIDIAN ROAD TO UNITED NATIONS AVENUE N

INCLUDING MERIDIAN ROAD WIDENING, NEW CONNECTOR ROAD, SEWER, WATER MAIN, CATCH BASIN, ELECTRICAL, TELECOMMUNICATION, STREET LIGHTING, AND LANDSCAPE WORK

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

M/WBE Participation Goals for Services

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

Prime Contract Industry: Construction

Group	Percentage	
Unspecified	**6%**	
or		
Black American	**UNSPECIFIED**	
Hispanic American	**UNSPECIFIED**	
Asian American	**UNSPECIFIED**	
Women	**UNSPECIFIED**	
Total Participation Goals	**6%**	**Line 1**

Tax ID #: _____ APT E- PIN #: _____

SCHEDULE B - Part II: M/WBE Participation Plan

Part II to be completed by the bidder/proposer.

Please note: For Non-M/WBE Prime Contractors who will NOT subcontract any services and will self-perform the entire contract, you must obtain a FULL waiver by completing the Waiver Application on pages 17 and 18 and timely submitting it to the contracting agency pursuant to the Notice to Prospective Contractors. Once a FULL WAIVER is granted, it must be included with your bid or proposal and you do not have to complete or submit this form with your bid or proposal.

Section I: Prime Contractor Contact Information

Tax ID # _____ **FMS Vendor ID #** _____

Business Name _____ **Contact Person** _____

Address _____

Telephone # _____ **Email** _____

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

PRIME CONTRACTOR ADOPTING AGENCY M/WBE PARTICIPATION GOALS

☐ **For Prime Contractors (including Qualified Joint Ventures and M/WBE firms) adopting Agency M/WBE Participation Goals.**	**Total Bid/Proposal Value**		**Agency Total Participation Goals (Line 1, Page 13)**		**Calculated M/WBE Participation Amount**
Calculate the total dollar value of your total bid that you agree will be awarded to M/WBE subcontractors for services and/or credited to an M/WBE prime contractor or Qualified Joint Venture. Please review the Notice to Prospective Contractors for more information on how to obtain credit for M/WBE participation.	$	X		=	$ Line 2

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

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

Tax ID #: _____ APT E- PIN #: _____

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

☐ As an M/WBE Prime Contractor that will self-perform and/or subcontract to other M/WBE firms a portion of the contract the value of which is at least the amount located on Lines 2 or 3 above, as applicable. The value of any work subcontracted to non-M/WBE firms will not be credited towards fulfillment of M/WBE Participation Goals. Please check all that apply to Prime Contractor:

☐ MBE ☐ WBE

☐ As a Qualified Joint Venture with an M/WBE partner, in which the value of the M/WBE partner's participation and/or the value of any work subcontracted to other M/WBE firms is at least the amount located on Lines 2 or 3 above, as applicable. The value of any work subcontracted to non M/WBE firms will not be credited towards fulfillment of M/WBE Participation Goals.

☐ As a non M/WBE Prime Contractor that will enter into subcontracts with M/WBE firms the value of which is at least the amount located on Lines 2 or 3 above, as applicable.

Section IV: General Contract Information

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

✓ Scopes of Subcontract Work

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

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

Tax ID #: _____ APT E-
PIN #: _____

Section V: Vendor Certification and Required Affirmations

I hereby:

1) acknowledge my understanding of the M/WBE participation requirements as set forth herein and the pertinent provisions of Section 6-129 of the Administrative Code of the City of New York ("Section 6-129"), and the rules promulgated thereunder;

2) affirm that the information supplied in support of this M/WBE Utilization Plan is true and correct;

3) agree, if awarded this Contract, to comply with the M/WBE participation requirements of this Contract, the pertinent provisions of Section 6-129, and the rules promulgated thereunder, all of which shall be deemed to be material terms of this Contract;

4) agree and affirm that it is a material term of this Contract that the Vendor will award the total dollar value of the M/WBE Participation Goals to certified MBEs and/or WBEs, unless a full waiver is obtained or such goals are modified by the Agency; and

5) agree and affirm, if awarded this Contract, to make all reasonable, good faith efforts to meet the M/WBE Participation Goals, or If a partial waiver is obtained or such goals are modified by the Agency, to meet the modified Participation Goals by soliciting and obtaining the participation of certified MBE and/or WBE firms.

Signature _____ **Date** _____

Print Name _____ **Title** _____

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

Contract Overview

Tax ID # _____ **FMS Vendor ID #** _____

Business Name _____

Contact Name _____ **Telephone #** _____ **Email** _____

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

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

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

_____ % **Agency M/WBE Participation Goal**

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

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

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

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

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

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

References

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

CONTRACT NO. _____ **AGENCY** _____ **DATE COMPLETED** _____

Total Contract Amount $ _____ **Total Amount Subcontracted** $ _____

Item of Work Subcontracted and Value of subcontract _____ Item of Work Subcontracted and Value of subcontract _____ Item of Work Subcontracted and Value of subcontract _____

CONTRACT NO. _____ **AGENCY** _____ **DATE COMPLETED** _____

Total Contract Amount $ _____ **Total Amount Subcontracted** $ _____

Item of Work Subcontracted and Value of subcontract _____ Item of Work Subcontracted and Value of subcontract _____ Item of Work Subcontracted and Value of subcontract _____

CONTRACT NO. **AGENCY** **DATE COMPLETED**

Total Contract Amount $ **Total Amount Subcontracted** $

Item of Work Subcontracted and Value of subcontract _____ Item of Work Subcontracted and Value of subcontract _____ Item of Work Subcontracted and Value of subcontract _____

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

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

TYPE OF Contract _____ **ENTITY** _____ **DATE COMPLETED** _____

Manager at entity that hired vendor (Name/Phone No./Email) _____

Total Contract Amount $ _____ **Total Amount Subcontracted** $ _____

Type of Work Subcontracted _____ _____ _____

_____

TYPE OF Contract _____ **AGENCY/ENTITY** _____ **DATE COMPLETED** _____

Manager at agency/entity that hired vendor (Name/Phone No./Email) _____

Total Contract Amount $ _____ **Total Amount Subcontracted** $ _____

Item of Work Subcontracted and Value of subcontract _____ Item of Work Subcontracted and Value of subcontract _____ Item of Work Subcontracted and Value of subcontract _____

_____

TYPE OF Contract _____ **AGENCY/ENTITY** _____ **DATE COMPLETED** _____

Manager at entity that hired vendor (Name/Phone No./Email) _____

Total Contract Amount $ _____ **Total Amount Subcontracted** $ _____

Item of Work Subcontracted and Value of subcontract _____ Item of Work Subcontracted and Value of subcontract _____ Item of Work Subcontracted and Value of subcontract _____

_____

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

Signature: _____ **Date:** _____

Print Name: _____ **Title:** _____

Shaded area below is for agency completion only

AGENCY CHIEF CONTRACTING OFFICER APPROVAL

Signature: _____ **Date:** _____

CITY CHIEF PROCUREMENT OFFICER APPROVAL

Signature: _____ **Date:** _____

Waiver Determination

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

APPRENTICESHIP PROGRAM REQUIREMENTS

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

__√__ YES _____ NO

(1) Apprenticeship Program Requirements

Notice to Bidders: Please be advised that, pursuant to the authority granted to the City under Labor Law Section 816-b, the Department of Design and Construction hereby requires that the contractor awarded a contract as a result of this Invitation for Bids, and any of its subcontractors with subcontracts worth one million dollars or over, have, prior to entering into such contract or subcontract, apprenticeship agreements appropriate for the type and scope of work to be performed that have been registered with, and approved by, the New York State Commissioner of Labor. In addition, the contractor and its subcontractors will be required to show that such apprenticeship programs have three years of current, successful experience in providing career opportunities.

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

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

(2) Apprenticeship Program Questionnaire

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

APPRENTICESHIP PROGRAM QUESTIONNAIRE

PROJECT ID: _____

The bidder must submit a completed and signed Apprenticeship Program Questionnaire.

Name of Bidder: _____

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

   _____ YES _____ NO

2. Has the bidder's Apprenticeship Program been registered with, and approved by, the New York State Commissioner of Labor?

   _____ YES _____ NO

3. Has the bidder's Apprenticeship Program had three years of successful experience in providing career opportunities?

   _____ YES _____ NO

If the answer to Question #3 is "Yes", the bidder shall, in the space below, provide information regarding the experience the Apprenticeship Program has had in providing career opportunities. The bidder may attach additional pages if necessary.

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Bidder: _____

By: _____ Title: _____
(Signature of Partner or Corporate Officer)

Date: _____

Project ID. _____

SAFETY QUESTIONNAIRE

The bidder must include, with its bid, all information requested on this Safety Questionnaire. Failure to provide a completed and signed Safety Questionnaire at the time of bid opening may result in disqualification of the bid as non-responsive.

1. Bidder Information:

Company Name: _____

DDC Project Number: _____

Company Size: _____ Ten (10) employees or less

_____ Greater than ten (10) employees

_____ Company has previously worked for DDC

2. Type(s) of Construction Work

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

3. Experience Modification Rate:

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

The Contractor must indicate its Intrastate and Interstate EMR for the past three years. [Note: For contractors with less than three years of experience, the EMR will be considered to be 1.00].

YEAR	INTRASTATE RATE	INTERSTATE RATE
_____	_____	_____
_____	_____	_____
_____	_____	_____

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

4. OSHA Information:

_____ Contractor has received a willful violation issued by OSHA or New York City Department of Buildings (NYCDOB) within the last three years.

_____ Contractor has had an incident requiring OSHA notification within 8 hours (i.e., fatality, or hospitalization of three or more employees).

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

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

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

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

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

Project ID. _____

YEAR	TOTAL NUMBERS OF HOURS WORKED BY EMPLOYEES	INCIDENT RATE
_____	_____	_____
_____	_____	_____
_____	_____	_____

If the contractor's Incident Rate for any of the past three years is one point higher than the Incident Rate for the type of construction it performs (listed below), the contractor must attach, to this questionnaire, a written explanation for the relatively high rate.

General Building Construction	8.5
Residential Building Construction	7.0
Nonresidential Building Construction	10.2
Heavy Construction, except building	8.7
Highway and Street Construction	9.7
Heavy Construction, except highways	8.3
Plumbing, Heating, HVAC	11.3
Painting and Paper Hanging	6.9
Electrical Work	9.5
Masonry, Stonework and Plastering	10.5
Carpentry and Floor Work	12.2
Roofing, Siding, and Sheet Metal	10.3
Concrete Work	8.6
Specialty Trade Contracting	8.6

5. Safety Performance on Previous DDC Project(s)

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

DDC Project Number(s): _____

_____

_____ Accident on previous DDC Project(s).

_____ Fatality or Life-altering Injury on DDC Project(s) within the last three years. [Examples of a life-altering injury include loss of limb, loss of a sense (e.g., sight, hearing), or loss of neurological function].

Date: _____ By: _____
(Signature of Owner, Partner, Corporate Officer)

Title: _____

(NO TEXT ON THIS PAGE)

Pre-Award Process

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

****

(A) **Project Reference Form**: If required, the bidder must complete and submit the Project Reference Form set forth on pages 26 through 28 of this Bid Booklet. The Project Reference Form consists of 3 parts: (1) Similar Contracts Completed by the Bidder, (2) Contracts Currently Under Construction by the Bidder, and (3) Pending Contracts Not Yet Started by the Bidder.

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

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

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

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

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

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

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

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

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

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

A. PROJECT REFERENCES – SIMILAR CONTRACTS COMPLETED BY THE BIDDER

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

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

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

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

Project & Location	Contract Type	Contract Amount ($000)	Subcontracted to Others ($000)	Uncompleted Portion ($000)	Date Scheduled to Complete	Owner Reference & Tel. No.	Architect/Engineer Reference & Tel. No. if different from owner

C. PROJECT REFERENCES – PENDING CONTRACTS NOT YET STARTED BY THE BIDDER

List all contracts awarded to or won by the bidder but not yet started.

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

(NO TEXT ON THIS PAGE)

OFFICE OF THE MAYOR
BUREAU OF LABOR SERVICES
CONTRACT CERTIFICATE

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

Contractor: _____

Address: _____

_____

Telephone Number: _____

Name and Title of Signatory: _____

_____

Contracting Agency or Owner: _____

Project Number: _____

Proposed Contract Amount: _____

Description and Address of Proposed Contract: _____

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

_____

_____

_____

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

_____ _____

Date Signature

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

(NO TEXT ON THIS PAGE)

VENDEX COMPLIANCE

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

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

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

Name of Bidder: _____
Bidder's Address: _____
Bidder's Telephone Number: _____
Bidder's Fax Number: _____
Date of Bid Opening: _____
Project ID: _____

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

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

Date of Submission: _____

By: _____
(Signature of Partner or corporate officer)

Print Name: _____

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

By: _____
(Signature of Partner or corporate officer)

Print Name: _____

(NO TEXT ON THIS PAGE)

Certificate of No Change Form

Mayor's Office of Contract Services

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

I, _____, being duly sworn, state that I have read
Enter Your Name

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

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

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

Vendor Questionnaire *This section is required.*

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

Name of Submitting Entity: _____

Vendor's Address: _____

Vendor's EIN or TIN: _____ Requesting Agency: _____

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

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

Signature date on change submission for the submitting vendor: _____

Principal Questionnaire

This section refers to the most recent principal questionnaire submissions.

Mayor's Office of Contract Services

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

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

Certification *This section is required.*

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

Certified By:

_____
Name (Print)

_____
Title

_____
Name of Submitting Entity

_____ _____
Signature *Date*

Notarized By:

_____ _____ _____
Notary Public *County License Issued* *License Number*

Sworn to before me on: _____
Date

Certificate of No Change Form

Mayor's Office of Contract Services

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

I, _____, being duly sworn, state that I have read
Enter Your Name

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

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

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

Vendor Questionnaire *This section is required.*

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

Name of Submitting Entity: _____

Vendor's Address: _____

Vendor's EIN or TIN: _____ Requesting Agency: _____

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

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

Signature date on change submission for the submitting vendor: _____

Principal Questionnaire

This section refers to the most recent principal questionnaire submissions.

Mayor's Office of Contract Services

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

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

Certification *This section is required.*

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

Certified By:

_____
Name (Print)

_____
Title

_____
Name of Submitting Entity

_____ _____
Signature *Date*

Notarized By:

_____ _____ _____
Notary Public *County License Issued* *License Number*

Sworn to before me on: _____
Date

IRAN DIVESTMENT ACT COMPLIANCE RIDER

FOR NEW YORK CITY CONTRACTORS

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

(a) The person provides goods or services of twenty million dollars or more in the energy sector of Iran, including a person that provides oil or liquefied natural gas tankers, or products used to construct or maintain pipelines used to transport oil or liquefied natural gas, for the energy sector of Iran; or

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

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

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

(1) The investment activities in Iran were made before the effective date of this section (i.e., April 12, 2012), the investment activities in Iran have not been expanded or renewed after the effective date of this section and the person has adopted, publicized and is implementing a formal plan to cease the investment activities in Iran and to refrain from engaging in any new investments in Iran: or

(2) The City makes a determination that the goods or services are necessary for the City to perform its functions and that, absent such an exemption, the City would be unable to obtain the goods or services for which the contract is offered. Such determination shall be made in writing and shall be a public document.

BIDDER'S CERTIFICATION OF COMPLIANCE WITH IRAN DIVESTMENT ACT

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

[*Please Check One*]

BIDDER'S CERTIFICATION

☐ By submission of this bid or proposal, each bidder/proposer and each person signing on behalf of any bidder/proposer certifies, and in the case of a joint bid each party thereto certifies as to its own organization, under penalty of perjury, that to the best of its knowledge and belief, that each bidder/proposer is not on the list created pursuant to paragraph (b) of subdivision 3 of Section 165-a of the State Finance Law.

☐ I am unable to certify that my name and the name of the bidder/proposer does not appear on the list created pursuant to paragraph (b) of subdivision 3 of Section 165-a of the State Finance Law. I have attached a signed statement setting forth in detail why I cannot so certify.

Dated: _____, New York
_____, 20__

_____
SIGNATURE

_____
PRINTED NAME

_____
TITLE

Sworn to before me this
_____ day of_____, 20____

_____
Notary Public

Dated:

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

CONSTRUCTION

EMPLOYMENT

REPORT

(NO TEXT ON THIS PAGE)

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

CONSTRUCTION EMPLOYMENT REPORT INSTRUCTIONS

WHO MUST FILE A CONSTRUCTION EMPLOYMENT REPORT

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

CONTRACT FUNDING SOURCE	CONTRACTOR	CONTRACT VALUE	SUBMISSION REQUIREMENT
Federally assisted	Prime and subcontractors	$10,000 or greater	Construction Employment Report
City and state funded	Prime contractor	$1,000,000 or greater	
	Subcontractor	$750,000 or greater	
		Less than $750,000	Less than $750,000 Waiver

Prime Contractor:

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

Subcontractor:

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

WHERE TO FILE

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

DLS REVIEW PROCESS

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

1. Within five (5) business days, DLS will review the ER for completeness and accuracy. If any information is omitted

or incorrect, or if necessary documents are not submitted, the submission shall be deemed incomplete and DLS will inform the contractor. The substantive compliance review does not commence until the submission is complete. **An incomplete submission will delay the review process and may preclude or interrupt the contract approval.**

2. If the ER submission is complete, the compliance review will proceed, resulting in one of the following:

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

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

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

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

HOW TO COMPLETE THE EMPLOYMENT REPORT

Contents

General Information
Part I: Contractor/Subcontractor Information
Part II: Employment Policies and Practices
Part III: Contract Bid Information and Projected and Current Workforce Forms
Signature Page

PART I: CONTRACTOR/SUBCONTRACTOR INFORMATION

Questions 4 – 8: Please provide the required contact information for your company. All contracts must have a designated Equal Employment Officer.

Question 9: If you are a subcontractor, you must state the name of the contractor for whom you are providing the construction services.

Question 10: Please provide the number of permanent employees in your company.

Question 11a-h: The Project Identification Number (PIN) and the Contract Registration ID Number (CT#) can be obtained from the City agency. Provide a description of the trade work you will perform on this project and the address where the work will be performed. Subcontractors can obtain this information from the contract they have with the prime contractor.

Questions 12 – 14: If your company has received a valid Certificate of Approval within the past 36 months, been audited by the United States Department of Labor, Office of Federal Contract Compliance Programs (OFCCP), or if your company has submitted an ER for a different contract for which you have not yet received a compliance certificate, then you only need to complete and submit the following:

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

If your company is currently waiting for an approval on another contract previously submitted, be certain to identify the date on which you submitted the completed Employment Report, the name of

the City contracting agency with which the contract was made, and the name and telephone number of the person to whom the Employment Report was submitted.

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

Question 15: If the company was audited by the OFCCP, also provide the following:

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

Question 16: Please provide a copy of any Collective Bargaining Agreement(s) which is negotiated through an employer trade association on behalf of your organization or any of its affiliates.

PART II: EMPLOYMENT POLICIES AND PRACTICES

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

Questions 17a – j: You must respond to the questions as to whether or not your firm has documents reflecting written policies, benefits and procedures. If so, then you must identify by name each document in which the policy(ies), procedure(s) and benefit(s) is located and submit copies of all of the document(s). If your firm follows unwritten practices or procedures, include an explanation of how they operate. Please submit the most current document(s), including all applicable amendments. Label each document and/or unwritten practice according to the question to which it corresponds (e.g. 18a, 18b, etc.)

Questions 18a – h: Inquires about the manner/methods by which you comply with the requirements of the Immigration Reform and Control Act of 1986 (IRCA).

Question 19: Inquires into where and how I-9 forms are maintained and stored.

Questions 20a – e: Inquires into whether or not there is a requirement that an applicant or employee be subjected to a medical examination at any given time. Copes of the medical information questionnaire and instructions must be submitted with the Employment Report.

Question 21: Indicate the existence and location of all statements of your firm's Equal Employment Opportunity policy and attach a copy of each statement.

Question 22: Submit any current Affirmative Action Plan(s) created pursuant to Executive Order 11246.

Question 23: If your firm or collective bargaining agreement has an internal grievance procedure, indicate this and submit a copy of the policy and procedure. If unwritten, explain its nature and operation. Explain how your firm's procedure addresses EEO complaints.

Question 24: If your employees have used the procedure in the last three (3) years, please submit an explanation in the format indicated below:

1. Number of complaint(s)	2. Nature of the complaint(s)	3. Position(s) of the complainant(s)	4. Was an investigation conducted? Y/N	5. Current status of the disposition

Question 25: Indicate whether in the past three (3) years complaints have been filed with a court of law or administrative agency, naming your company as a defendant (or respondent) in a complaint alleging violation of any anti-discrimination or affirmative action laws. If yes, develop and submit a log to show, for each administrative/and or judicial action filed, the following information:

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

Question 26: Identify each job for which a physical qualification exists. Identify and explain the physical qualification(s) for each stated job. Submit job descriptions for each job and the reasons for the qualifications.

Question 27: Identify each job for which there exists any qualification related to age, race, color, national origin, sex, creed, disability, marital status, sexual orientation or citizenship status. Identify and explain the specific related qualification for each job stated. Submit job descriptions for each job and the reasons for the qualifications.

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

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

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

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

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

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

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

SIGNATURE PAGE

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

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

CONSTRUCTION EMPLOYMENT REPORT

GENERAL INFORMATION

1. Your contractual relationship in this contract is: Prime contractor_X__ Subcontractor____

1a. Are M/WBE goals attached to this project? Yes ____ No ____

2. Please check one of the following if your firm would like information on how to certify with the City of New York as a:
___Minority Owned Business Enterprise ___Locally based Business Enterprise
___Women Owned Business Enterprise ___Emerging Business Enterprise

2a. If you are certified as an **MBE**, **WBE**, or **LBE**, what city/state agency are you certified with? _____ Are you DBE certified? Yes ____ No ____

3. Please indicate if you would like assistance from SBS in identifying certified M/WBEs for contracting opportunities: Yes___ No___

4. Is this project subject to a project labor agreement? Yes ____ No ____

PART I: CONTRACTOR/SUBCONTRACTOR INFORMATION

5. _____
Employer Identification Number or Federal Tax I.D./ Email Address

6. _____
Company Name

7. _____
Company Address and Zip Code

8. _____
Chief Operating Officer Telephone Number

9 _____
Designated Equal Opportunity Compliance Officer Telephone Number
(If same as Item #7, write "same")

10. _____
Name of Prime Contractor and Contact Person
(If same as Item #5, write "same")

11. Number of employees in your company: _____

FOR OFFICIAL USE ONLY: File No._____

12. Contract information:

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

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

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

(h) Description and location of proposed contract:

_____

_____

13. Has your firm been reviewed by the Division of Labor Services (DLS) within the past 36 months and issued a Certificate of Approval? Yes___ No___

If yes, attach a copy of certificate.

14. Has DLS within the past month reviewed an Employment Report submission for your company and issued a Conditional Certificate of Approval? Yes___ No___

If yes, attach a copy of certificate.

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

15. Has an Employment Report already been submitted for a different contract (not covered by this Employment Report) for which you have not yet received compliance certificate?
Yes___ No___ If yes,

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

16. Has your company in the past 36 months been audited by the United States Department of Labor, Office of Federal Contract Compliance Programs (OFCCP)? Yes___ No___

If yes,

(a) Name and address of OFCCP office.

_____

_____

(b) Was a Certificate of Equal Employment Compliance issued within the past 36 months?
Yes___ No___

If yes, attach a copy of such certificate.

(c) Were any corrective actions required or agreed to? Yes___ No___

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

(d) Were any deficiencies found? Yes___ No___

If yes, attach a copy of such findings.

17. Is your company or its affiliates a member or members of an employers' trade association which is responsible for negotiating collective bargaining agreements (CBA) which affect construction site hiring? Yes___ No___

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

PART II: DOCUMENTS REQUIRED

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

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

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

___ (c) Employee Policy/Handbook

___ (d) Personnel Policy/Manual

___ (e) Supervisor's Policy/Manual

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

___ (g) Collective bargaining agreement(s).

___ (h) Employment Application(s)

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

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

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

(a) Prior to job offer	Yes___ No___
(b) After a conditional job offer	Yes___ No___
(c) After a job offer	Yes___ No___
(d) Within the first three days on the job	Yes___ No___
(e) To some applicants	Yes___ No___
(f) To all applicants	Yes___ No___
(g) To some employees	Yes___ No___
(h) To all employees	Yes___ No___

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

_____

_____

21. Does your firm or any of its collective bargaining agreements require job applicants to take a medical examination? Yes___ No___

If yes, is the medical examination given:

(a)	Prior to a job offer	Yes___ No___
(b)	After a conditional job offer	Yes___ No___
(c)	After a job offer	Yes___ No___
(d)	To all applicants	Yes___ No___
(e)	Only to some applicants	Yes___ No___

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

_____

_____

22. Do you have a written equal employment opportunity (EEO) policy? Yes___ No___

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

_____

_____

23. Does the company have a current affirmative action plan(s) (AAP)

_____Minorities and Women

_____Individuals with handicaps

_____Other. Please specify _____

24. Does your firm or collective bargaining agreement(s) have an internal grievance procedure with respect to EEO complaints? Yes___ No___

If yes, please attach a copy of this policy.

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

25. Has any employee, within the past three years, filed a complaint pursuant to an internal grievance procedure or with any official of your firm with respect to equal employment opportunity? Yes___ No___

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

26. Has your firm, within the past three years, been named as a defendant (or respondent) in any administrative or judicial action where the complainant (plaintiff) alleged violation of any anti-discrimination or affirmative action laws? Yes___ No___

If yes, attach a log. See instructions.

27. Are there any jobs for which there are physical qualifications? Yes___ No___

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

_____

_____

28. Are there any jobs for which there are age, race, color, national origin, sex, creed, disability, marital status, sexual orientation, or citizenship qualifications? Yes___ No___

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

_____

_____

SIGNATURE PAGE

I, (print name of authorized official signing)_____ hereby certify that the information submitted herewith is true and complete to the best of my knowledge and belief and submitted with the understanding that compliance with New York City's equal employment requirements, as contained in Chapter 56 of the City Charter, Executive Order No. 50 (1980), as amended, and the implementing Rules and Regulations, is a contractual obligation.

I also agree on behalf of the company to submit a certified copy of payroll records to the Division of Labor Services on a monthly basis.

_____
Contractor's Name

_____
Name of person who prepared this Employment Report Title

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

_____
Telephone Number

_____
Signature of authorized official Date

If contractors are found to be underutilizing minorities and females in any given trade based on Chapter 56 Section 3H, the Division of Labor Services reserves the right to request the contractor's workforce data and to implement an employment program.

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

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

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

Only original signatures accepted.

Sworn to before me this _____ day of _____ 20 _____

_____
Notary Public Authorized Signature Date

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

CONSTRUCTION EMPLOYMENT REPORT

GENERAL INFORMATION

1. Your contractual relationship in this contract is: Prime contractor____ Subcontractor X

1a. Are M/WBE goals attached to this project? Yes ____ No ____

2. Please check one of the following if your firm would like information on how to certify with the City of New York as a:
___Minority Owned Business Enterprise ___Locally based Business Enterprise
___Women Owned Business Enterprise ___Emerging Business Enterprise

2a. If you are certified as an **MBE**, **WBE**, or **LBE**, what city/state agency are you certified with? _____ Are you DBE certified? Yes ____ No ____

3. Please indicate if you would like assistance from SBS in identifying certified M/WBEs for contracting opportunities: Yes___ No___

4. Is this project subject to a project labor agreement? Yes ____ No ____

PART I: CONTRACTOR/SUBCONTRACTOR INFORMATION

5. _____
Employer Identification Number or Federal Tax I.D./ Email Address

6. _____
Company Name

7. _____
Company Address and Zip Code

8. _____
Chief Operating Officer Telephone Number

9 _____
Designated Equal Opportunity Compliance Officer Telephone Number
(If same as Item #7, write "same")

10. _____
Name of Prime Contractor and Contact Person
(If same as Item #5, write "same")

11. Number of employees in your company: _____

FOR OFFICIAL USE ONLY: File No._____

12. Contract information:

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

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

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

(h) Description and location of proposed contract:

_____

_____

13. Has your firm been reviewed by the Division of Labor Services (DLS) within the past 36 months and issued a Certificate of Approval? Yes___ No___

If yes, attach a copy of certificate.

14. Has DLS within the past month reviewed an Employment Report submission for your company and issued a Conditional Certificate of Approval? Yes___ No___

If yes, attach a copy of certificate.

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

15. Has an Employment Report already been submitted for a different contract (not covered by this Employment Report) for which you have not yet received compliance certificate?
Yes___ No___ If yes,

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

16. Has your company in the past 36 months been audited by the United States Department of Labor, Office of Federal Contract Compliance Programs (OFCCP)? Yes___ No___

If yes,

(a) Name and address of OFCCP office.

_____

_____

(b) Was a Certificate of Equal Employment Compliance issued within the past 36 months?
Yes___ No___

If yes, attach a copy of such certificate.

(c) Were any corrective actions required or agreed to? Yes___ No___

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

(d) Were any deficiencies found? Yes___ No___

If yes, attach a copy of such findings.

17. Is your company or its affiliates a member or members of an employers' trade association which is responsible for negotiating collective bargaining agreements (CBA) which affect construction site hiring? Yes___ No___

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

PART II: DOCUMENTS REQUIRED

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

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

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

___ (c) Employee Policy/Handbook

___ (d) Personnel Policy/Manual

___ (e) Supervisor's Policy/Manual

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

___ (g) Collective bargaining agreement(s).

___ (h) Employment Application(s)

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

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

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

(a) Prior to job offer	Yes___ No___
(b) After a conditional job offer	Yes___ No___
(c) After a job offer	Yes___ No___
(d) Within the first three days on the job	Yes___ No___
(e) To some applicants	Yes___ No___
(f) To all applicants	Yes___ No___
(g) To some employees	Yes___ No___
(h) To all employees	Yes___ No___

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

_____

_____

21. Does your firm or any of its collective bargaining agreements require job applicants to take a medical examination? Yes___ No___

If yes, is the medical examination given:

(a)	Prior to a job offer	Yes___ No___
(b)	After a conditional job offer	Yes___ No___
(c)	After a job offer	Yes___ No___
(d)	To all applicants	Yes___ No___
(e)	Only to some applicants	Yes___ No___

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

_____

_____

22. Do you have a written equal employment opportunity (EEO) policy? Yes___ No___

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

_____

_____

23. Does the company have a current affirmative action plan(s) (AAP)

_____Minorities and Women

_____Individuals with handicaps

_____Other. Please specify _____

24. Does your firm or collective bargaining agreement(s) have an internal grievance procedure with respect to EEO complaints? Yes___ No___

If yes, please attach a copy of this policy.

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

25. Has any employee, within the past three years, filed a complaint pursuant to an internal grievance procedure or with any official of your firm with respect to equal employment opportunity? Yes___ No___

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

26. Has your firm, within the past three years, been named as a defendant (or respondent) in any administrative or judicial action where the complainant (plaintiff) alleged violation of any anti-discrimination or affirmative action laws? Yes___ No___

If yes, attach a log. See instructions.

27. Are there any jobs for which there are physical qualifications? Yes___ No___

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

_____

_____

28. Are there any jobs for which there are age, race, color, national origin, sex, creed, disability, marital status, sexual orientation, or citizenship qualifications? Yes___ No___

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

_____

_____

SIGNATURE PAGE

I, (print name of authorized official signing)_____ hereby certify that the information submitted herewith is true and complete to the best of my knowledge and belief and submitted with the understanding that compliance with New York City's equal employment requirements, as contained in Chapter 56 of the City Charter, Executive Order No. 50 (1980), as amended, and the implementing Rules and Regulations, is a contractual obligation.

I also agree on behalf of the company to submit a certified copy of payroll records to the Division of Labor Services on a monthly basis.

_____

Contractor's Name

_____

Name of person who prepared this Employment Report Title

_____

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

_____

Telephone Number

_____

Signature of authorized official Date

If contractors are found to be underutilizing minorities and females in any given trade based on Chapter 56 Section 3H, the Division of Labor Services reserves the right to request the contractor's workforce data and to implement an employment program.

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

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

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

Only original signatures accepted.

Sworn to before me this _____ day of _____ 20 _____

_____

Notary Public Authorized Signature Date

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

Date _____ File Number _____

LESS THAN $750,000 SUBCONTRACT CERTIFICATE

Are you currently certified as one of the following? Please check yes or no:
MBE Yes ___No ___ WBE Yes ___No ___ LBE Yes ___No ___ DBE Yes___No___

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

_____

Please check one of the following if your firm would like information on how to certify with the City of New York as a:
___Minority Owned Business Enterprise ___Locally based Business Enterprise
___Women Owned Business Enterprise

_____
Company Name Employer Identification Number or Federal Tax I.D

_____
Company Address and Zip Code

_____
Contact Person (First Name, Last Name) Telephone Number

_____
Fax Number E-mail Address

Description and location of proposed subcontract:_____
_____
_____

_____ _____
Procurement Identification Number (PIN) Contract Registration Number (CT#)
(City contracts only) (City contracts only)

_____ _____
Block and Lot Number ICIP Application Number
(ICIP projects only) (ICIP projects only)

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

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

_____
Signature of authorized official Date

Only original signatures accepted.

Sworn to before me this _____ day of _____ 20 _____

_____
Notary Public Authorized Signature Date

Revised 1/13
FOR OFFICIAL USE ONLY: File No._____

(NO TEXT ON THIS PAGE)

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

1. Do you plan to subcontractor work on this contract? Yes___ No___

2. If yes, complete the chart below.

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

SUBCONTRACTOR'S NAME*	OWNERSHIP (ENTER APPROPRIATE CODE LETTERS BELOW)	WORK TO BE PERFORMED BY SUBCONTRACTOR	TRADE PROJECTED FOR USE BY SUBCONTRACTOR	PROJECTED DOLLAR VALUE OF SUBCONTRACT

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

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

FORM B: PROJECTED WORKFORCE

TRADE CLASSIFICATION CODES

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

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

Trade: _____

Union Affiliation, if applicable _____

Total (Col. #1-10): _____

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

Total Female (Col. #6 – 10): _____

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

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

_____

_____

FOR OFFICIAL USE ONLY: File No._____

FORM B: PROJECTED WORKFORCE

Trade:

_____

Union Affiliation, if applicable

_____

Total (Col. #1-10):

_____

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

_____

Total Female (Col. #6 – 10):

_____

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

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

_____

_____

FORM C: CURRENT WORKFORCE

TRADE CLASSIFICATION CODES

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

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

Trade: _____

Union Affiliation, if applicable _____

Total (Col. #1-10): _____

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

Total Female (Col. #6 – 10): _____

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

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

_____

_____

FOR OFFICIAL USE ONLY: File No._____

FORM C: CURRENT WORKFORCE

Trade:

_____

Union Affiliation, if applicable

_____

Total (Col. #1-10):

_____

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

_____

Total Female (Col. #6 – 10):

_____

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

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

_____

_____

(NO TEXT ON THIS PAGE)

NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

INFRASTRUCTURE DIVISION
BUREAU OF DESIGN

VOLUME 1 OF 3

PROJECT ID: P-USTA1

USTA UN AVENUE
CONNECTOR ROAD
RELOCATION

MERIDIAN ROAD - FROM EXISTING CONNECTOR ROAD TO
QUEENS MUSEUM OF ART
NEW CONNECTOR ROAD - FROM MERIDIAN ROAD TO
UNITED NATIONS AVENUE N

INCLUDING MERIDIAN ROAD WIDENING, NEW CONNECTOR ROAD,
SEWER, WATER MAIN, CATCH BASIN, ELECTRICAL,
TELECOMMUNICATION, STREET LIGHTING,
AND LANDSCAPE WORK

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

_____
Contractor.

_____

Dated_____, **20**____

_____

NEW YORK CITY DEPARTMENT OF DESIGN + CONSTRUCTION

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

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

VOLUME 2 OF 3

INFORMATION FOR BIDDERS
CONTRACT
PERFORMANCE AND PAYMENT BONDS
PREVAILING WAGE SCHEDULE

FOR FURNISHING ALL LABOR AND MATERIALS NECESSARY AND REQUIRED FOR:

PROJECT ID: P-USTA1

USTA UN AVENUE
CONNECTOR ROAD
RELOCATION

MERIDIAN ROAD – FROM EXISTING CONNECTOR ROAD TO QUEENS MUSEUM OF ART
NEW CONNECTOR ROAD – FROM MERIDIAN ROAD TO UNITED NATIONS AVENUE N

INCLUDING MERIDIAN ROAD WIDENING, NEW CONNECTOR ROAD, SEWER, WATER MAIN, CATCH BASIN, ELECTRICAL, TELECOMMUNICATION, STREET LIGHTING, AND LANDSCAPE WORK

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

FOR THE DEPARTMENT OF PARKS AND RECREATION
PREPARED BY
PARSONS BRINCKERHOFF

AUGUST 12, 2013

4-025

NEW YORK CITY DEPARTMENT OF DESIGN + CONSTRUCTION

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

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

VOLUME 2 OF 3

INFORMATION FOR BIDDERS
CONTRACT
PERFORMANCE AND PAYMENT BONDS
PREVAILING WAGE SCHEDULE

FOR FURNISHING ALL LABOR AND MATERIALS NECESSARY AND REQUIRED FOR:

FOR THE DEPARTMENT OF PARKS AND RECREATION
PREPARED BY
IN-HOUSE DESIGN

MARCH 3, 2010

BID BOND 1
FORM OF BID BOND

KNOW ALL MEN BY THESE PRESENTS. That we, NY Asphalt, Inc.
73 Industrial Loop
Staten Island, NY 10309

hereinafter referred to as the "Principal", and Hudson Insurance Company
360 Route 24
Chester, NJ 07930

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

Ten Percent (10%) of Amount Bid

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

Whereas, the Principal is about to submit (or has submitted) to the City the accompanying proposal, hereby made a part hereof, to enter into a contract in writing for Project ID P-USTA1

DDC PIN: 8502014HW0007C. USTA UN Ave Connector Road Relocation.

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

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

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

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

BID BOND 2

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

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

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

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

IN WITNESS WHEREOF, the Principal and the Surety have hereunto set their hands and seals and such of them as are corporations have caused their corporate seals to be hereto affixed and these presents to be signed by their proper officers the 10th day of October, 2013.

(Seal) NY Asphalt, Inc. (L.S.)
Principal

By: Albert Thompson, President

(Seal) Hudson Insurance Company
Surety

By: Tracy M. Carras
Tracy M. Carras, Attorney-In-Fact

BID BOND 3

ACKNOWLEDGMENT OF PRINCIPAL, IF A CORPORATION

State of New York County of Richmond ss:
On this 10th day of October, 2013, before me personally came
Michael Thompson to me known, who, being by me duly sworn, did depose and say
that he resides at 470 Butler Blvd Staten Island NY
that he is the President of NY Asphalt, Inc.
the corporation described in and which executed the foregoing instrument; that he knows the seal of said corporation; that one of the seals affixed to said instrument is such seal; that it was so affixed by order of the directors of said corporation, and that he signed his name thereto by like order.

GINA M. SCACCIO
Notary Public, State of New York
No. 01SC6217947
Qualified in King County
Commission Expires 02/22/2014

Gina M Scaccio
Notary Public

ACKNOWLEDGMENT OF PRINCIPAL, IF A PARTNERSHIP

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

_____
Notary Public

ACKNOWLEDGMENT OF PRINCIPAL, IF AN INDIVIDUAL

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

_____
Notary Public

AFFIX ACKNOWLEDGMENTS AND JUSTIFICATION OF SURETIES

(NO TEXT ON THIS PAGE)

SURETY ACKNOWLEDGEMENT

State of New Jersey
ss:
County of *Morris*

On this 10th day of *October*, *2013*, before me personally comes *Tracy M. Carras* to me known, who, being by me duly sworn, deposes and says that he resides in the City of *Livingston, NJ* that he is the Attorney-In-Fact of the *Hudson Insurance Company* the Corporation described in and which executed the foregoing instrument; that he knows that seal of the said Corporation; that the seal affixed to the said instrument is such Corporate seal; that it was so affixed by the order of the Board of Directors of the said Corporation, and that he signed his name thereto by like order.

BSMessineo

(Signature and Title of Official Taking Acknowledgement)

BONNIE S. MESSINEO
Notary Public, State of New Jersey
My Commission Expires
April 16, 2018

HUDSON
INSURANCE GROUP

BID BOND POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS: That HUDSON INSURANCE COMPANY, a corporation of the State of Delaware, with offices at 100 William Street, New York, New York, 10038, has made, constituted and appointed, and by these presents, does make, constitute and appoint

Michael Culnen, Michael Blount, Valerie S. Ozer, Tracy M. Carras, Laura R. Braue, Richard E. Isgard, Karen K. Cleirbaut of the State of New Jersey

its true and lawful Attorney(s)-in-Fact, at New York City in the State of New York, each of them alone to have full power to act without the other or others, to make, execute and deliver on its behalf, as Surety, bid bonds for any and all purposes.

Such bid bonds, when duly executed by said Attorney(s)-in-Fact, shall be binding upon said Company as fully and to the same extent as if signed by the President of said Company under its corporate seal attested by its Secretary.

In Witness Whereof, HUDSON INSURANCE COMPANY has caused these presents to be of its Executive Vice President thereunto duly authorized, on this 27th day of July, 2012 at New York, New York.

(Corporate seal)

Hudson Insurance Co. CORPORATE SEAL 1918 DELAWARE

Attest:
Dina Daskalakis, Assistant Corporate Secretary

HUDSON INSURANCE COMPANY

By
Christopher T. Suarez, Executive Vice President

STATE OF NEW YORK
COUNTY OF NEW YORK SS

On the 27th day of July, 2012 before me personally came Christopher T. Suarez to me known, who being by me duly sworn did depose and say that he is an Executive Vice President of **HUDSON INSURANCE COMPANY**, the Company described herein and which executed the above instrument, that he knows the seal of said Company, that the seal affixed to said instrument is the corporate seal of said Company, that it was so affixed by order of the Board of Directors of said Company, and that he signed his name thereto by like order

(Notarial Seal)

ANN M MURPHY NOTARY PUBLIC STATE OF NEW YORK 01MU6067553 QUALIFIED IN NASSAU COUNTY COMMISSION EXPIRES 12-10-2013

ANN M. MURPHY
Notary Public, State of New York
No. 01MU6067553
Qualified in Nassau County
Commission Expires December 10, 2013

CERTIFICATION

STATE OF NEW YORK
COUNTY OF NEW YORK SS

The undersigned **Dina Daskalakis** hereby certifies

THAT the original resolution, of which the following is a true and correct copy, was duly adopted by unanimous written consent of the Board of Directors of Hudson Insurance Company dated July 27th, 2007, and has not since been revoked, amended or modified

"RESOLVED, that the President, the Executive Vice Presidents, the Senior Vice Presidents and the Vice Presidents shall have the authority and discretion, to appoint such agent or agents, or attorney or attorneys-in-fact, for the purpose of carrying on this Company's surety business, and to empower such agent or agents, or attorney or attorneys-in-fact, to execute and deliver, under this Company's seal or otherwise, bonds obligations, and recognizances, whether made by this Company as surety thereon or otherwise, indemnity contracts, contracts and certificates, and any and all other contracts and undertaking made in the course of this Company's surety business, and renewals, extensions, agreements, waivers, consents or stipulations regarding undertakings so made, and

FURTHER RESOVLED, that the signature of any such Officer of the Company and the Company's seal may be affixed by facsimile to any power of attorney or certification given for the execution of any bond, undertaking, recognizance, contract of indemnity or other written obligation in the nature thereof or related thereto, such signature and seal when so used whether heretofore or hereafter, being hereby adopted by the Company as the original signature of such officer and the original seal of the Company, to be valid and binding upon the Company with the same force and effect as though manually affixed."

THAT the above and foregoing is a full, true and correct copy of Power of Attorney issued by said Company, and of the whole of the original and that the said Power of Attorney is still in full force and effect and has not been revoked, and furthermore that the Resolution of the Board of Directors, set forth in the said Power of Attorney is now in force

Witness the hand of the undersigned and the seal of said Company this 10th day of October, 2013

(Corporate seal)

Hudson Insurance Company CORPORATE SEAL 1918 DELAWARE

By
Dina Daskalakis, Assistant Corporate Secretary

Form Bid-8-2010 (v1)

HUDSON INSURANCE COMPANY

SHORT FORM FINANCIAL STATEMENT
AS OF DECEMBER 31, 2012

ASSETS

Bonds	$	318,531,796
Real estate		0
Cash on hand and on deposit		41,733,689
Reinsurance Receivable		105,454,830
FIT recoverable (including net deferred tax asset)		19,868,819
Aggregate write-ins for other than invested assets		139,608,095
Deferred premiums, agents' balances and installments booked but deferred and not yet due (including earned but unbilled premiums)		18,930,310
Stocks		166,365,282
Other Assets		10,642,737
	$	821,135,558

LIABILITIES & SURPLUS

Losses	$	128,633,904
Loss adjustment expense		13,337,642
Other expenses		14,219,365
Unearned premiums		23,495,289
Ceded reinsurance premiums payable		208,755,645
Payable to parent, subsidiaries and affiliates		10,842,368
Commissions payable, contingent commissions and other similar charges		8,005,492
Other Liabilities		14,944,624
	$	422,234,329
Common capital stock	$	7,500,000
Gross paid in and contributed surplus		293,480,097
Unassigned funds (surplus)		97,920,894
Surplus as regards policyholders	$	398,901,229
	$	821,135,558

STATE OF NEW YORK)
) ss:
COUNTY OF NEW YORK)

I, the undersigned Senior Vice President and Controller of Hudson Insurance Company hereby certify the foregoing to be a short form financial statement in the form of a balance sheet, showing the Company's assets and liabilities on a provisional basis, at the close of business on December 31, 2012.

IN TESTIMONY WHEREOF, I have set my hand and affixed the seal of the Company, this 7 day of March, 2013.

Anthony J. Slowski
Senior Vice President and Controller

Subscribed and sworn to before me this 7th day of March 2013
My commission expires

ALICIA T. McKINNEY
Notary Public, State of New York
No. 01MC6212495
Qualified in New York County
Commission Expires October 13, 2013

State of New York

DEPARTMENT OF FINANCIAL SERVICES

WHEREAS IT APPEARS THAT

Hudson Insurance Company

Home Office Address Wilmington, Delaware

Organized under the Laws of Delaware

has complied with the necessary requirements of or pursuant to law, it is hereby

licensed to do within this State the business of

accident and health, fire, miscellaneous property, water damage, burglary and theft, glass, boiler and machinery, elevator, animal, collision, personal injury liability, property damage liability, workers' compensation and employers' liability, fidelity and surety, credit, motor vehicle and aircraft physical damage, marine and inland marine, marine protection and indemnity and legal services insurance, as specified in paragraph(s) 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 19, 20, 21 and 29 of Section 1113(a) of the New York Insurance Law and also such workers' compensation insurance as may be incident to coverages contemplated under paragraphs 20 and 21 of Section 1113(a), including insurances described in the Longshoremen's and Harbor Workers' Compensation Act (Public Law No. 803, 69 Cong. as amended; 33 USC Section 901 et seq. as amended) to the extent permitted by certified copy of its charter document on file in this Department until July 1, 2014.

NEW YORK STATE * DEPARTMENT OF FINANCIAL SERVICES * EXCELSIOR

In Witness Whereof, I have hereunto set my hand and affixed the official seal of this Department at the City of Albany, New York, this 1st day of July, 2013

Benjamin M. Lawsky
Superintendent

By Jacqueline Catalfamo

Jacqueline Catalfamo
Special Deputy Superintendent

Original on Watermarked Paper

Notice to Bidders:

In 2013 the City will be implementing a new web based subcontractor reporting system. Once this subcontractor reporting system is implemented, and Contractor receives notice of its implementation, Contractor will be required to list in the system all of the subcontractors that it knows it will use or is already using in the performance of this contract. For each subcontractor listed, Contractor will be required to provide the following information: maximum contract value, description of subcontractor work, start and end date of the subcontract and identification of the subcontractor's industry. Identification of subcontractors in the system along with the required information will be required in order to obtain subcontractor approval under [section 3.02 of Appendix A][Article 17 of the Standard Construction Contract] and PPB Rule § 4-13 for all subcontractors that have not been approved as of the implementation date. Thereafter, Contractor will be required to report in the system the payments made to each subcontractor within 30 days of making the payment. If any of the required information changes throughout the term of the contract, Contractor will be required to revise the information in the system...

When the subcontractor reporting system is implemented, Contractor will receive a written notice from the City which will contain the information the Contractor will need to list its subcontractors and report payments. Contractor will not be required to comply with the requirements set forth herein until such notice is issued. Contractor will have 30 days from the date of the notice to list its current subcontractors for which it has already received Agency approval, if any. Thereafter, for those subcontractors that have not yet been approved by the Agency, subcontractors will have to be listed in the system in order to obtain the required Agency approval.

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

Contractor hereby agrees to these provisions and acknowledges that they will become effective on the date set forth in the notice.

(NO TEXT ON THIS PAGE)

NOTICE TO BIDDERS

Please be advised that the City of New York has revised the form of the performance bond that is required for City construction contracts that exceed $5 million. The form of bond required for contracts that do not exceed $5 million has not changed. The City's payment bond remains unchanged.

The bond form for contracts that do not exceed $5 million has been approved by the U.S. Small Business Administration ("SBA") for participation in their Bond Guarantee Program. The SBA's Bond Guarantee Program enables eligible small businesses to obtain or increase bonding by having the SBA act as a partial guarantor of the contractor to the surety. For information concerning the SBA program, including current limits on what size contracts are eligible for participation in the program, go to www.sba.gov/osg. If you are interested in participating in this program, we suggest that you contact your broker or the SBA.

In order to maximize participation by small businesses in the SBA Guarantee Program, the City also encourages prime contractors who are awarded contracts greater than $5 million to allow their subcontractors to use the SBA-approved form, particularly on contracts that are subject to Local Law 129 (the M/WBE program), if the prime contractor requires subcontractors to obtain performance bonds.

(NO TEXT ON THIS PAGE)

NOTICE TO BIDDERS, PROPOSERS, CONTRACTORS, AND RENEWAL CONTRACTORS

This contract includes a provision concerning the protection of employees for whistleblowing activity, pursuant to New York City Local Law Nos. 30-2012 and 33-2012, effective October 18, 2012 and September 18, 2012, respectively. The provisions apply to contracts with a value in excess of $100,000.

Local Law No. 33-2012, the Whistleblower Protection Expansion Act ("WPEA"), prohibits a contractor or its subcontractor from taking an adverse personnel action against an employee or officer for whistleblower activity in connection with a City contract; requires that certain City contracts include a provision to that effect; and provides that a contractor or subcontractor may be subject to penalties and injunctive relief if a court finds that it retaliated in violation of the WPEA. The WPEA is codified at Section 12-113 of the New York City Administrative Code.

Local Law No. 30-2012 requires a contractor to prominently post information explaining how its employees can report allegations of fraud, false claims, criminality, or corruption in connection with a City contract to City officials and the rights and remedies afforded to employees for whistleblowing activity. Local Law No. 30-2012 is codified at Section 6-132 of the New York City Administrative Code.

WHISTLEBLOWER PROTECTION EXPANSION ACT RIDER

1. In accordance with Local Law Nos. 30-2012 and 33-2012, codified at sections 6-132 and 12-113 of the New York City Administrative Code, respectively,

   (a) Contractor shall not take an adverse personnel action with respect to an officer or employee in retaliation for such officer or employee making a report of information concerning conduct which such officer or employee knows or reasonably believes to involve corruption, criminal activity, conflict of interest, gross mismanagement or abuse of authority by any officer or employee relating to this Contract to (i) the Commissioner of the Department of Investigation, (ii) a member of the New York City Council, the Public Advocate, or the Comptroller, or (iii) the City Chief Procurement Officer, ACCO, Agency head, or Commissioner.

   (b) If any of Contractor's officers or employees believes that he or she has been the subject of an adverse personnel action in violation of subparagraph (a) of paragraph 1 of this rider, he or she shall be entitled to bring a cause of action against Contractor to recover all relief necessary to make him or her whole. Such relief may include but is not limited to: (i) an injunction to restrain continued retaliation, (ii) reinstatement to the position such employee would have had but for the retaliation or to an equivalent position, (iii) reinstatement of full fringe benefits and seniority rights, (iv) payment of two times back pay, plus interest, and (v) compensation for any special damages sustained as a result of the retaliation, including litigation costs and reasonable attorney's fees.

   (c) Contractor shall post a notice provided by the City in a prominent and accessible place on any site where work pursuant to the Contract is performed that contains information about:

      (i) how its employees can report to the New York City Department of Investigation allegations of fraud, false claims, criminality or corruption arising out of or in connection with the Contract; and
      (ii) the rights and remedies afforded to its employees under New York City Administrative Code sections 7-805 (the New York City False Claims Act) and 12-113 (the Whistleblower Protection Expansion Act) for lawful acts taken in connection with the reporting of allegations of fraud, false claims, criminality or corruption in connection with the Contract.

   (d) For the purposes of this rider, "adverse personnel action" includes dismissal, demotion, suspension, disciplinary action, negative performance evaluation, any action resulting in loss of staff, office space, equipment or other benefit, failure to appoint, failure to promote, or any transfer or assignment or failure to transfer or assign against the wishes of the affected officer or employee.

   (e) This rider is applicable to all of Contractor's subcontractors having subcontracts with a value in excess of $100,000; accordingly, Contractor shall include this rider in all subcontracts with a value a value in excess of $100,000.

2. Paragraph 1 is not applicable to this Contract if it is valued at $100,000 or less. Subparagraphs (a), (b), (d), and (e) of paragraph 1 are not applicable to this Contract if it was solicited pursuant to a finding of an emergency. Subparagraph (c) of paragraph 1 is neither applicable to this Contract if it was solicited prior to October 18, 2012 nor if it is a renewal of a contract executed prior to October 18, 2012.

CITY OF NEW YORK

DEPARTMENT OF
DESIGN AND CONSTRUCTION
DIVISION OF INFRASTRUCTURES

INFORMATION FOR BIDDERS

SEPTEMBER 2008

(NO TEXT ON THIS PAGE)

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

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INFORMATION FOR BIDDERS

1. Description and Location of Work

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

2. Time and Place for Receipt of Bids

Sealed bids shall be received on or before the date and hour specified in Attachment 1, at which time they will be publicly opened and read aloud in the presence of the Commissioner or his or her representative, and any bidders who may desire to be present.

3. Definitions

The definitions set forth in the Procurement Policy Board Rules shall apply to this Invitation For Bids.

4. Invitation For Bids and Contract Documents

(A) Except for titles, sub-titles, headings, running headlines, tables of contents and indices (all of which are printed herein merely for convenience) the following, except for such portions thereof as may be specifically excluded, shall be deemed to be part of the Contract and the Invitation for Bids.

(1) All provisions required by law to be inserted in this Contract, whether actually inserted or not
(2) The Contract Drawings and Specifications
(3) The General Conditions, the General Requirements and the Special Conditions, if any
(4) The Contract
(5) The Information for Bidders; Request for Proposals; Notice of Solicitation and Proposal For Bids; Bid or Proposal, and, if used, the Bid Booklet
(6) The Budget Director's Certificate; all Addenda issued prior to the receipt of the bids; the Notice of Award; Performance and Payment Bonds, if required; and the Notice to Proceed with the Work.

(B) For particulars as to this procurement, including quantity and quality of the purchase, extent of the work or labor to be performed, delivery and performance schedule, and any other special instructions, prospective bidders are referred to the Invitation For Bids Documents. A copy of such documents can be obtained at the location set forth in Attachment 1.

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

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

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

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

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

5. Pre-Bid Conference

A pre-bid conference shall be held as set forth in Attachment 1. Nothing stated at the pre-bid conference shall change the terms or conditions of the Invitation For Bids Documents, unless a change is made by written amendment as provided in Section 9 below. Failure to attend a mandatory pre-bid conference shall constitute grounds for the rejection of the bid.

6. Agency Contact

Any questions or correspondence relating to this bid solicitation shall be addressed to the Agency Contact person specified in Attachment 1.

7. Bidder's Oath

(A) The bid-shall be properly signed by an authorized representative of the bidder and the bid shall be verified by the written oath of the authorized representative who signed the bid, that the several matters stated and information furnished therein are in all aspects true.

(B) A materially false statement willfully or fraudulently made in connection with the bid or any of the forms completed and submitted with the bid may result in the termination of any Contract between the City and the Bidder. As a result, the Bidder may be barred from participating in future City contracts as well as be subject to possible criminal prosecution.

8. Examination and Viewing of Site, Consideration of Other Sources of Information and Changed Conditions

(A) Pre-Bidding (Investigation) Viewing of Site -Bidders must carefully view and examine the site of the proposed work, as well as its adjacent area, and seek other usual sources of information, for they will be conclusively presumed to have full knowledge of any and all conditions on, about or above the site relating to or affecting in any way the performance of the work to be done under the Contract which were or should have been indicated to a reasonably prudent bidder. To arrange a date for visiting the work site, bidders are to contact the Agency Contact person specified in Attachment 1.

(B) Should the contractor encounter during the progress of the work subsurface conditions at the site materially differing from any shown on the Contract Drawings or indicated in the Specifications or such subsurface conditions as could not reasonably have been anticipated by the contractor and were not anticipated by the City, which conditions will materially affect the cost of the work to be done under the

Contract, the attention of the Commissioner must be called immediately to such conditions before they are disturbed. The Commissioner shall thereupon promptly investigate the conditions. If he finds that they do so materially differ, or that they could not have been reasonably anticipated by the contractor and were not anticipated by the City, the Contract may be modified with his written approval.

9. Examination of Proposed Contract

(A) Request for Interpretation or Correction: Prospective bidders must examine the Contract Documents carefully and before bidding must request the Commissioner in writing for an interpretation or correction of every patent ambiguity, inconsistency or error therein which should have been discovered by a reasonably prudent bidder. Such interpretation or correction, as well as any additional contract provisions the Commissioner may decide to include, will be issued in writing by the Commissioner as an addendum to the Contract, which will be transmitted to each person recorded as having received a copy of the Contract Documents from the Department. Transmission of such addendum will be by mail, e-mail, facsimile or hand delivery. Such addendum will also be posted at the place where the Contract Documents are available for the inspection of prospective bidders. Upon transmission as provided for herein, such addendum shall become a part of the Contract Documents, and binding on all bidders, whether or not actual notice of such addendum is shown.

(B) Only Commissioner's Interpretation or Correction Binding: Only the written interpretation or correction so given by the Commissioner shall be binding, and prospective bidders are warned that no other officer, agent or employee of the City is authorized to give information concerning, or to explain or interpret, the Contract.

(C) Documents given to a subcontractor for the purpose of soliciting the subcontractor's bid shall include either a copy of the bid cover sheet or a separate information sheet setting forth the project name, the Contract number (if available), the contracting agency and the Project's location.

10. Form of Bid

Each bid must be submitted upon the prescribed form and must contain: a) the name, residence and place of business of the person or persons making the same; b) the names of all persons interested therein, and if no other person is so interested, such fact must be distinctly stated; c) a statement to the effect that it is made without any connection with any other person making a bid for the same purpose and that it is in all respects fair and without collusion or fraud; d) a statement that no Council member or other officer or employee or person whose salary is payable in whole or part from the City Treasury is directly or indirectly interested therein or in the supplies, materials or equipment and work or labor to which it relates, or in any portion of the profits thereof; e) a statement that the bidder is not in arrears to the City or to any agency upon a debt or contract or taxes, and is not a defaulter as surety or otherwise upon any obligation to the City to any agency thereof, except as set forth in the bid.

THE BID SHALL BE TYPEWRITTEN OR WRITTEN LEGIBLY IN INK. THE BID SHALL BE SIGNED IN INK. ERASURES OR ALTERATIONS SHALL BE INITIALED BY THE SIGNER IN INK. FAILURE TO CONFORM TO THE REQUIREMENTS OF THIS SECTION 10 SHALL RESULT IN THE REJECTION OF THE BID.

11. Irrevocability of Bid

The prices set forth in the bid cannot be revoked and shall be effective until the award of the Contract, unless the bid is withdrawn as provided for in Sections 15 and 18 below.

12. Acknowledgment of Amendments

The receipt of any amendment to the Contract Documents shall be acknowledged by the bidder in its bid submission.

13. Bid Samples and Descriptive Literature

Bid samples and descriptive literature shall not be submitted by the bidder, unless expressly requested elsewhere in the Contract or Contract Documents. Any unsolicited bid samples or descriptive literature which are submitted shall not be examined or tested and shall not be deemed to vary any of the provisions of this Contract.

14. Proprietary Information/Trade Secrets

(A) The bidder shall identify those portions of the bid which it deems to be confidential, proprietary information or trade secrets, and provide justification why such materials shall not be disclosed by the City. All such materials shall be clearly indicated by stamping the pages on which such information appears, at the top and bottom thereof with the word "Confidential". Such materials stamped "Confidential" must be easily separable from the non-confidential sections of the bid.

(B) All such materials so indicated shall be reviewed by the Agency and any decision not to honor a request for confidentiality shall be communicated in writing to the bidder. For those bids which are unsuccessful, all such confidential materials shall be returned to the bidder. Prices, makes and model or catalog numbers of the items offered, deliveries, and terms of payment shall be publicly available after bid opening, regardless of any designation of confidentiality made by the bidder.

15. Pre-Opening Modification or Withdrawal of Bids

Bids may be modified or withdrawn by written notice received in the office designated in Attachment 1, before the time and date set for the bid opening. If a bid is withdrawn in accordance with this Section, the bid security, if any, shall be returned to the bidder.

16. Bid Evaluation and Award

In accordance with the New York City Charter, the Procurement Policy Board Rules and the terms and conditions of this Invitation For Bids, this Contract shall be awarded, if at all, to the responsible bidder whose bid meets the requirements and evaluation criteria set forth in the Invitation For Bids, and whose bid price is either the most favorable bid price or, if the Invitation For Bids so states, the most favorable evaluated bid price. A bid may not be evaluated for any requirement or criterion that is not disclosed in the Invitation For Bids.

Restriction: No negotiations with any bidder shall be allowed to take place except under the circumstances and in the manner set forth in Section 21. Nothing in this Section shall be deemed to permit a contract award to a bidder submitting a higher quality item than that designated in the Invitation For Bids, if that bid is not also the most favorable bid.

17. Late Bids, Late Withdrawals and Late Modifications

Any bid received at the place designated in the solicitation after the time and date set for receipt of bids is late and shall not be considered. Any request for withdrawal or modification received at the place designated in the solicitation after the time and date set for receipt of bids is late and shall not be considered. The exception to this provision is that a late modification of a successful bid that makes the bid terms more favorable to the City shall be considered at any time it is received.

18. Withdrawal of Bids.

Except as provided for in Section 15, above, a bidder may not withdraw its bid before the expiration of forty-five (45) days after the date of the opening of bids; thereafter, a bidder may withdraw its bid only in writing and in advance of an actual award. If within sixty (60) days after the execution of the Contract, the Commissioner fails to fix the date for commencement of work by written notice to the bidder, the bidder, at his option, may ask to be relieved of his obligation to perform the work called for by written notice to the Commissioner. If such notice is given to the Commissioner, and the request to withdraw is granted, the bidder waives all claims in connection with this Contract.

19. Mistake in Bids

(A) Mistake Discovered Before Bid Opening: A bidder may correct mistakes discovered before the time and date set for bid opening by withdrawing or correcting the bid as provided in Section 15 above.

(B) Mistakes Discovered Before Award

(1) In accordance with General Municipal Law (Section 103, subdivision 11), where a unilateral error or mistake is discovered in a bid, such bid may be withdrawn upon written approval of the Agency Chief Contracting Officer if the following conditions are met:

(a) The mistake is known or made known to the agency prior to the awarding of the Contract or within 3 days after the opening of the bid, whichever period is shorter; and
(b) The price bid was based upon an error of such magnitude that enforcement would be unconscionable; and
(c) The bid was submitted in good faith and the bidder submits credible evidence that the mistake was a clerical error as opposed to a judgment error; and
(d) The error in the bid is actually due to an unintentional and substantial arithmetic error or an unintentional omission of a substantial quantity of work, labor, material or services made directly in the compilation of the bid, which unintentional arithmetic error or unintentional omission can be clearly shown by objective evidence drawn from inspection of the original work paper, documents, or materials used in the preparation of the bid sought to be withdrawn; and
(e) It is possible to place the agency in the same position as existed prior to the bid.

(2) Unless otherwise required by law, the sole remedy for a bid mistake in accordance with this Article shall be withdrawal of the bid, and the return of the bid bond, or other security, if any, to the bidder. Thereafter, the agency may, in its discretion, award the Contract to the next lowest bidder or rebid the Contract. Any amendment to or reformation of a bid or a Contract to rectify such an error or mistake

therein is strictly prohibited.

(3) If the mistake and the intended correct bid are clearly evident on the face of the bid document, the bid shall be corrected to the intended correct bid and may not be withdrawn. Examples of mistakes that may be corrected are typographical errors, errors in extending unit prices, transposition errors and arithmetical errors.

20. Low Tie Bids

(A) When two or more low responsive bids from responsible bidders are identical in price, meeting all the requirements and criteria set forth in the Invitation For Bids, the Agency Chief Contracting Officer will break the tie in the following manner and order of priority:

(1) Award to a certified New York City small, minority or woman-owned business entity bidder;
(2) Award to a New York City bidder;
(3) Award to a certified New York State small, minority or woman-owned business bidder;
(4) Award to a New York State bidder.

(B) If two or more bidders still remain equally eligible after application of paragraph (A) above, award shall be made by a drawing by lot limited to those bidders. The bidders involved shall be invited to attend the drawing. A witness shall be present to verify the drawing and shall certify the results on the bid tabulation sheet.

21. Rejection of Bids

(A) Rejection of Individual Bids: The Agency may reject a bid if:

(1) The bidder fails to furnish any of the information required pursuant to Section 24 or 28 hereof; or if
(2) The bidder is determined to be not responsible pursuant to the Procurement Policy Board Rules; or if
(3) The bid is determined to be non-responsive pursuant to the Procurement Policy Board Rules; or if
(4) The bid, in the opinion of the Agency Chief Contracting Officer, contains unbalanced bid prices and is thus non-responsive, unless the bidder can show that the prices are not unbalanced for the probable required quantity of items, or if the imbalance is corrected pursuant to Section 15.

(B) Rejection of All Bids: The Agency, upon written approval by the Agency Chief Contracting Officer, may reject all bids and may elect to resolicit bids if in its sole opinion it shall deem it in the best interest of the City so to do.

(C) Rejection of All Bids and Negotiation With All Responsible Bidders: The Agency Head may determine that it is appropriate to cancel the Invitation For Bids after bid opening and before award and to complete the acquisition by negotiation. This determination shall be based on one of the following reasons:

(1) All otherwise acceptable bids received are at unreasonable prices, or only one bid is received and the Agency Chief Contracting Officer cannot determine the reasonableness of the bid price, or no responsive bid has been received from a responsible bidder; or

(2) In the judgment of the Agency Chief Contracting Officer, the bids were not independently arrived at in open competition, were collusive, or were submitted in bad faith.

(D) When the Agency has determined that the Invitation for Bids is to be canceled and that use of negotiation is appropriate to complete the acquisition, the contracting officer may negotiate and award the Contract without issuing a new solicitation, subject to the following conditions:

(1) prior notice of the intention to negotiate and a reasonable opportunity to negotiate have been given by the contracting officer to each responsible bidder that submitted a bid in response to the Invitation for Bids;

(2) the negotiated price is the lowest negotiated price offered by a responsible bidder; and

(3) the negotiated price is lower than the lowest rejected bid price of a responsible bidder that submitted a bid in response to the Invitation for Bids.

22. Right to Appeal Determinations of Non-Responsiveness or Non-Responsibility and Right to Protest Solicitations and Award

The bidder has the right to appeal a determination of non-responsiveness or non-responsibility and has the right to protest a solicitation and award. For further information concerning these rights, the bidder is directed to the Procurement Policy Board Rules.

23. Affirmative Action and Equal Employment Opportunity

This Invitation For Bids is subject to applicable provisions of Federal, State and Local Laws and executive orders requiring affirmative action and equal employment opportunity.

24. VENDEX Questionnaires

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

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

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

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

25. Complaints About the Bid Process

The New York City Comptroller is charged with the audit of contracts in New York City. Any vendor who believes that there has been unfairness, favoritism or impropriety in the bid process should inform the Comptroller, Office of Contract Administration, One Centre Street, Room 835, New York, New York; telephone number (212)669-2797.

26. Bid, Performance and Payment Security

(A) Bid Security: Each bid must be accompanied by bid security in an amount and type specified in Attachment 1 (page A-1 of the Bid Booklet). The bid security shall assure the City of New York of the adherence of the bidder to its proposal, the execution of the Contract, and the furnishing of Performance and Payment Bonds by the bidder, if required in Attachment 1. Bid security shall be returned to the bidder as follows:

(1) Within ten (10) days after the bid opening, the Comptroller will be notified to return the deposits of all but the three (3) lowest bidders. Within five (5) days after the award, the Comptroller will be notified to return the deposits of the remaining two unsuccessful bidders.
(2) Within five (5) days after the execution of the Contract and acceptance of the Contractor's bonds, the Comptroller will be notified to return the bid security of the successful bidder or, if performance and payment bonds are not required, only after the sum retained under Article 21 of the Contract equals the amount of the bid security.
(3) Where all bids are rejected, the Comptroller will be notified to return the deposit of the three (3) lowest bidders at the time of rejection.

(B) Performance and Payment Security: Performance and Payment Security must be provided in an amount and type specified in Attachment 1 (page A-1 of the Bid Booklet). The performance and payment security shall be delivered by the contractor prior to or at the time of execution of the Contract. If a contractor fails to deliver the required performance and payment security, its bid security shall be enforced, and an award of Contract may be made to the next lowest responsible and responsive bidder, or the contract may be rebid.

(C) Acceptable Types of Security: Acceptable types of security for bids, performance, and payment shall be limited to the following:

(1) a one-time bond in a form satisfactory to the City;
(2) a bank certified check or money order;
(3) obligations of the City of New York; or
(4) other financial instruments as determined by the Office of Construction in consultation with the Comptroller.

Whenever the successful bidder deposits obligations of the City of New York as performance and payment security, the Comptroller may sell and use the proceeds thereof for any purpose for which the principal or surety on such bond would be liable under the terms of the Contract. If the money is deposited with the Comptroller, the successful bidder shall not be entitled to receive interest on such money from the City.

(D) Form of Bonds: Security provided in the form of bonds must be prepared on the form of bonds authorized by the City of New York. Forms for bid, performance, and payment bonds are included in the Invitation for Bids Documents. Such bonds must have as surety thereunder such surety company or companies as are: (I) approved by the City of New York; (2) authorized to do business in the State of New York, and (3) approved by the Department of the Treasury of the United States. Premiums for any required bonds must be included in the base bid.

The bidder is advised that submission of a bid bond where the surety on such bond fails to meet the criteria set forth herein, shall result in the rejection of the bid as non-responsive.

The Department of the Treasury of the United States advises that information concerning approved surety companies may be obtained as follows: (1) from the Government Printing Office at 202-512-1800; (2) through the Internet at http://www.fms.treas.gov/c570/index.html, and (3) through a computerized public bulletin board, which can be accessed by using your computer modem and dialing 202-874-6887.

(E) Power of Attorney: Attorneys in fact who sign bid, performance, or payment bonds must file with each bond a certified copy of their power of attorney to sign said bonds.

27. Failure to Execute Contract

In the event of failure of the successful bidder to execute the Contract and furnish the required security within ten (10) days after notice of the award of the Contract, the deposit of the successful bidder or so much thereof as shall be applicable to the amount of the award made shall be retained by the City, and the successful bidder shall be liable for and hereby agrees to pay on demand the difference between the price bid and the price for which such Contract shall be subsequently awarded, including the cost of any required reletting and less the amount of such deposit. No plea of mistake in such accepted bid shall be available to the bidder for the recovery of the deposit or as a defense to any action based upon such accepted bid. Further, should the bidder's failure to comply with this Section cause any funding agency, body or group (Federal, State, City, Public, Private, etc.) to terminate, cancel or reduce the funding on this project, the bidder in such event shall be liable also to the City for the amount of actual funding withdrawn by such agency on this project, less the amount of the forfeited deposit.

28. Bidder Responsibilities and Qualifications

(A) Bidders must include with their bids all information necessary for a determination of bidder responsibility, as set forth in the Specifications.

(B) The Agency may require any bidder or prospective bidder to furnish all books of account, records, vouchers, statements or other information concerning the bidder's financial status for examination as may be required by the Agency to ascertain the bidder's responsibility and capability to perform the Contract. If required, a bidder must also submit a sworn statement setting forth such information as the Agency may require concerning present and proposed plant and equipment, the personnel and qualifications of his working organizations, prior experience and performance record.

(C) Oral Examination on Qualifications: In addition thereto, and when directed by the Agency, the bidder, or a responsible officer, agent or employee of the bidder, must submit to an oral examination to be conducted by the Agency in relation to his proposed tentative plan and schedule of

operations, and such other matters as the Agency may deem necessary in order to determine the bidder's ability and responsibility to perform the work in accordance with the Contract. Each person so examined must sign and verify a stenographic transcript of such examination noting thereon such corrections as such person may desire to make.

(D) If the bidder fails or refuses to supply any of the documents or information set forth in paragraph (B) hereof or fails to comply with any of the requirements thereof, the Agency may reject the bid.

29. Employment Report

In accordance with Executive Order No. 50 (1980) as modified by Executive Order 108 (1986), the filing of a completed Employment Report (ER) is a requirement of doing business with the City of New York for construction contractors with contracts of $1,000,000 or more and subcontractors with construction subcontracts of $750,000 or more. The required forms and information are included in the Bid Booklet.

30. Labor Law Requirements

(A) General: The successful bidder will be required to comply strictly with all Federal, State and local labor laws and regulations.

(B) New York State Labor Law: This Contract is subject to New York State Labor Law Section 220, which requires that construction workers on the site be paid prevailing wages and supplements. The Contractor is reminded that all wage provisions of this Contract will be enforced strictly and failure to comply will be considered when evaluating performance. Noncompliance may result in the contractor being debarred by the City from future contracts. Complaints filed with the Comptroller may result in decisions which may debar a contractor from bidding contracts with any state governmental entity and other political subdivisions.

(C) Records: The Contractor is expected to submit accurate payroll reports and other required documents and verify attendance and job classifications being utilized in compliance with the law, Contract provisions and agency procedures.

31. Insurance

(A) Bidders are advised that the insurance requirements contained herein are regarded as material terms of the Contract. As required by Article 22 of the Contract, the contractor must effect and maintain with companies licensed and authorized to do business in the State of New York, the types of insurance set forth therein, when required by and in the amounts set forth in Schedule A of the General Conditions. Such required insurance must be provided from the date the contractor is ordered to commence work and up to the date of final acceptance of all required work.

(B) The contractor must, within ten days of receipt of the notice of award, submit the following insurance documentation: (a) original certificate of insurance for general liability in the amount required by Schedule A of the General Conditions, and (b) original certificates of insurance or other proof of coverage for workers' compensation and disability benefits, as required by Section 57 of the New York State Workers' Compensation Law and Section 220 of the Disability Benefits Law.

32. Lump Sum Contracts

(A) Comparison of Bids: Bids on Lump Sum Contracts will be compared on the basis of the lump sum price bid, adjusted for alternate prices bid, if any.

(B) Lump Sum Bids for "General Construction Work" which include excavation shall include all necessary excavation work defined in the Specifications as being included in the lump sum bid. The bidder shall also bid a unit price for the additional cost of excavating material which is defined in the Specifications as excavation for which additional payment will be made. The total estimated additional cost of removing such material will be taken as the quantity set forth in the Engineer's Estimate multiplied by the unit price bid. This total estimated cost of additional excavation shall be added to the lump sum bid for the General Construction Work for the purpose of comparing bids to determine the low bidder.

(C) Variations from Engineer's Estimate: The Engineer's Estimate of the quantity of excavation for which additional payment will be made is approximate only and is given solely to be used as a uniform basis for the comparison of bids and such estimate is not to be considered as part of this contract. The quantities actually required to complete the contract work may be more or less than the quantities in the Engineer's Estimate and, if so, no action for damages or for loss of profits shall accrue to the contractor by reason thereof.

33. Unit Price Contracts

(A) Comparison of Bids: Bids on Unit Price Contracts will be compared on the basis of a total estimated price, arrived at by taking the sum of the estimated quantities of such items, in accordance with the Engineer's Estimate of Quantities set forth in the Bid Schedule, multiplied by the corresponding unit prices, and including any lump sum bids on individual items.

(B) Variations from Engineer's Estimate: Bidders are warned that the Engineer's Estimate of Quantities on the various items of work and materials is approximate only, given solely to be used as a uniform basis for the comparison of bids, and is not be considered part of this contract. The quantities actually required to complete the contract work may be less or more than so estimated, and if so, no action for damages or for loss of profits shall accrue to the contractor by reason thereof.

(C) Overruns: The terms and conditions applicable to overruns of unit price items are set forth in Article 26 of the Contract.

34. Excise Tax

Bidders are referred to the Specifications for information on Federal Excise Tax exemptions.

35. Licenses and Permits

The successful bidder will be required to obtain all necessary licenses and permits necessary to perform the work.

36. Multiple Prime Contractors

If more than one prime contractor will be involved on this project, all contractors are required to examine the Invitation for Bid packages for all other parts of the project.

37. Locally Based Enterprise Requirements (LBE)

This Contract is subject to the requirements of Administrative Code, Section 6-108.1, and the regulations promulgated thereunder. No construction contract will be awarded unless and until these requirements have been complied with in their entirety. The bidder is advised of the provisions set forth below, as well as the provisions with respect to the Locally Based Enterprise Program contained in Article 67 of the Contract. The contractor is advised that:

(A) If any portion of the Contract is subcontracted, not less than ten percent of the total dollar amount of the contract shall be awarded to locally based enterprises ("LBEs"); except, where less than ten percent of the total dollar amount of the Contract is subcontracted, such lesser percentage shall be so awarded.

(B) No contractor shall require performance and payment bonds from LBE subcontractors.

(C) No Contract shall be awarded unless the contractor first identifies in its bid:

(1) the percentage, dollar amount and type of work to be subcontracted; and
(2) the percentage, dollar amount and type of work to be subcontracted to LBEs.

(D) Within ten calendar days after notification of low bid, the apparent low bidder shall submit an "LBE Participation Schedule" to the contracting agency. If such schedule does not identify sufficient LBE subcontractors to meet the requirements of Administrative Code Section 6-108.1, the apparent low bidder shall submit documentation of its good faith efforts to meet such requirements.

(1) The "LBE Participation Schedule" shall include:

(a) the name and address of each LBE that will be given a subcontract,
(b) the percentage, dollar amount and type of work to be subcontracted to the LBE, and
(c) the dates when the LBE subcontract work will commence and end.

(2) The following documents shall be attached to the "LBE Participation Schedule":

(a) verification letters from each subcontractor listed in the "LBE Participation Schedule" stating that the LBE will enter into a formal agreement for work,
(b) certification documents of any proposed LBE subcontractor which is not on the LBE certified list, and
(c) copies of the certification letter of any proposed subcontractor which is an LBE.

(3) Documentation of good faith efforts to achieve the required LBE percentage shall include as appropriate but not limited to the following:

(a) attendance at prebid meetings, when scheduled by the agency, to advise bidders of contract requirements;

(b) advertisement where appropriate in general circulation media, trade association publications and small business media of the specific subcontracts that would be at least equal to the percentage goal for LBE utilization specified by the contractor;

(c) written notification to association of small, minority and women contractors soliciting specific subcontractors;

(d) written notification by certified mail to LBE firms that their interest in the contract is solicited for specific work items and their estimated values;

(e) demonstration of efforts made to select portions of the work for performance by LBE firms in order to increase the likelihood of achieving the stated goal;

(f) documented efforts to negotiate with LBE firms for specific subcontracts, including at a minimum:
(i) The names, address and telephone numbers of LBE firms that are contacted;
(ii) A description of the information provided to LBE firms regarding the plans and specifications for portions of the work to be performed;
(iii) Documentation showing that no reasonable price can be obtained from LBE firms;
(iv) A statement of why agreements with LBE firms were not reached;

(g) a statement of the reason for rejecting any LBE firm which the contractor deemed to be unqualified; and

(h) documentation of efforts made to assist the LBE firms contacted that needed assistance in obtaining required insurance.

(E) Unless otherwise waived by the Commissioner with the approval of the Office of Economic and Financial Opportunity, failure of a proposed contractor to provide the information required by paragraphs (C) and (D) above may render the bid non-responsive and the Contract may not be awarded to the bidder. If the contractor states that it will subcontract a specific portion of the work, but can demonstrate despite good faith efforts it cannot achieve its required LBE percentage for subcontracted work until after award of Contract, the Contract may be awarded, subject to a letter of compliance from the contractor stating that it will comply with Administrative Code Section 6-108.1 and subject to approval by the Commissioner. If the contractor has not met its required LBE percentage prior to award, the contractor shall demonstrate that a good faith effort has been made subsequent to award to obtain LBEs on each subcontract until its meets the required percentage.

(F) When a bidder indicates prior to award that no work will be subcontracted, no work may be subcontracted without the prior written approval of the Commissioner, which shall be granted only if the contractor in good faith seeks LBE subcontractors at least six weeks prior to the start of work.

(G) The contractor may not substitute or change any LBE which was identified prior to award of the contract without the written permission of the Commissioner. The contractor shall make a written application to the Commissioner for permission to make such substitution or change, explaining why the contractor needs to change its LBE subcontractor and how the contractor will meet its LBE subcontracting requirement. Copies of such application must be served on the originally identified LBE by certified mail return receipt requested, as well as the proposed substitute LBE. The Commissioner shall determine whether or not to grant the contractor's request for substitution.

38. Bid Submission Requirements

The Bid Submission Requirements are set forth on page 2 of the Bid Booklet.

39. Comptroller's Certificate

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

40. Procurement Policy Board Rules

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

41. DDC Safety Requirements

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

CITY OF NEW YORK

DEPARTMENT OF DESIGN AND CONSTRUCTION

SAFETY REQUIREMENTS

THE DDC SAFETY REQUIREMENTS INCLUDE THE FOLLOWING SECTIONS:

I. POLICY ON SITE SAFETY

II. PURPOSE

III. DEFINITIONS

IV. RESPONSIBILITIES

V. SAFETY QUESTIONNAIRE

VI. SAFETY PROGRAM AND SITE SAFETY PLAN

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

VIII. EVALUATION DURING WORK IN PROGRESS

IX. SAFETY PERFORMANCE EVALUATION

I. POLICY ON SITE SAFETY

The City of New York Department of Design and Construction (DDC) is committed to a policy of injury and illness prevention and risk management for construction work that will ensure the safety and health of the workers engaged in the projects and the protection of the general public. Therefore, it is DDC's policy that work carried out by Contractors on DDC jobsites must, at a minimum, comply with applicable federal, state and city laws, rules and regulations, including without limitation:

- U. S. Department of Labor 29 Code of Federal Regulations (CFR) Part 1926 and applicable Sub-parts of Part 1910 – U.S. Occupational Safety and Health Administration (OSHA) including, but not limited to "Respiratory Protection" (29 CFR 1910.134), "Permit-Required Confined Spaces" (29 CFR 1910.146), and "Hazard Communication" (29 CFR 1910.1200);
- New York State Department of Labor Industrial Code Rule 23 – Protection in Construction, Demolition and Excavation;
- New York City Construction Codes, Title 28
- NYC Department of Transportation Title 34 Chapter 2 – Highway Rules
- New York State Department of Labor Industrial Code Rule 753
- NYC Local Law No. 113 (2005) Noise Control Code

In addition, all regulations promulgated by the NYC Department of Transportation, including requirements for Maintenance and Protection of Traffic (MPT), are applicable when contained in contract specifications. While MPT is a significant component of work in our Infrastructure Division, it does not supersede or exempt Contractors from complying with other applicable health and safety standards (for example, excavating and trenching standards, operation of heavy equipment and compliance with City environmental and noise regulations).

II. PURPOSE

The purpose of this policy is to ensure that Contractors perform their work and supervise their employees in accordance with all applicable federal, state and city rules and regulations. Further, Contractors will be expected to minimize or eliminate jobsite and public hazard, through a planning, inspection, auditing and corrective action process. The goal is to control risks so that injuries, illnesses and accidents to contractors' employees, DDC employees and the general public, as well as damage to city-owned and private property, are reduced to the lowest level feasible.

III. DEFINITIONS

Agency Chief Contracting Officer (ACCO): The ACCO shall mean the person delegated authority by the Commissioner to organize and supervise the procurement activity of subordinate Agency staff in conjunction with the CCPO.

Competent Person: As defined by OSHA, an individual who is capable of identifying existing and predictable hazards in the surroundings or working conditions that are unsanitary, hazardous, or dangerous to employees or the general public, and who has authorization to take prompt corrective measures to eliminate them.

Construction Safety Auditor: A representative of the QACS Construction Safety Unit who provides inspection and assessment services to enhance health and safety on all DDC construction projects. The activities of the Construction Safety Auditor include performing site surveys, reviewing health and safety plans, reviewing construction permits, and rendering technical advice and assistance to DDC Resident Engineers and Project Managers.

Construction Safety Unit: A part of QACS within the Division of Technical Support that assesses contractor safety on DDC jobsites and advises responsible parties of needed corrective actions.

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

Contractor: For purposes of these Safety Requirements, the term "Contractor" shall mean any person or entity that enters into a contract for the performance of construction work on a DDC project. The term "Contractor" shall include any person or entity which enters into any of the following types of contracts: (1) a prime construction contract for a specific project, (2) a prime construction contract using the Job Order Contracting System ("JOCS Contract"), and (3) a subcontract with a CM/Builder ("First Tier Subcontract").

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

Job Hazard Assessment (JHA): A process of identifying site-specific hazards that may be present during construction and establishing the means and methods to reduce or eliminate those hazards.

Jobsite Safety Coordinator: A person designated by the Contractor to be onsite during all activities. This individual shall have received, at a minimum, the OSHA 10-hour construction safety program. Other examples of acceptable training are the 30-hour OSHA Safety and Health Standards for the Construction Industry training program (OSHA 510) or a degree/certificate in a safety and health from a college-level curriculum. This person does not necessarily have to be dedicated full-time to site safety, but must have sufficient experience and authority to undertake corrective action and must qualify to be a competent person. For certain projects, as defined in NYC Construction Codes – Title 28, this person may be required to have a Site Safety Manager's License issued by the NYC DOB.

Qualified Person: As defined by OSHA, an individual who, by possession of a recognized degree, certificate, license or professional standing, or who by extensive knowledge, training, and experience, has successfully demonstrated his or her ability to solve problems relating to the subject matter, the work, or the project. Qualified Persons are required under regulation to address issues pertaining, but without limit, to fall protection, scaffold design and trenching and shoring, among others.

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

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

Safety Questionnaire: Used by DDC to evaluate Contractor's current and past safety performance. It is required to be completed by all Contractors initially when submitting bids for Construction work, or when being pre-qualified and updated annually or as requested by the DDC.

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

Unsafe or Unhealthy Condition: A condition that could be potentially hazardous to the health and safety of personnel or the public, and/or damaging to equipment, machinery, property or the environment.

Weekly Safety Meetings: Weekly documented jobsite safety meetings, given to all jobsite personnel by contractor, with the purpose of discussing general safety topics and job specific requirements encountered at the DDC work site.

IV. RESPONSIBILITIES

All persons who manage, perform, and provide support for construction projects shall conduct operations in compliance with the requirements identified in this Policy and all applicable governing regulatory agency requirements and guidelines pertaining to safety in construction.

A. Resident Engineer / Construction Project Manager / Construction Manager

- Monitors the issuance of safety- related permits, approvals and drawings and maintains copies on site.
- Monitors construction-related work activities to confirm that they are conducted in accordance with DDC policies and all applicable regulations that pertain to construction safety.
- Maintains documentation and periodically attends weekly safety meeting.
- Notifies the Construction Safety Unit and the ACCO's Insurance and Risk Management Unit of project- related accidents and emergencies, as per DDC's Construction Safety Emergency Protocol.
- Gathers facts related to all accidents and prepares DDC Accident Reports.
- Notifies the Construction Safety Unit of outside regulatory agency inspections and forwards a copy of the inspection report within three days of its receipt.
- Monitors the conditions at the site for conformance with the Site Safety Plan and DDC construction documents.
- Notifies the contractor and DDC in the event that any condition or activity exists that is not in compliance with the Site Safety Plan, applicable federal, state or local codes or any condition that presents a potential risk of injury to the public or workers or possible damage to property.
- Notifies DDC of any emergency condition and directs the contractor to provide such labor, materials, equipment and supervision to abate such conditions.
- Reports gross safety violations to the Construction Safety Unit immediately.

B. Contractors

- Complete a Safety Questionnaire and submit with its bid or as part of a pre-qualification package.
- Provide a Written Job Hazard Assessment (JHA) that identifies expected safety issues of the work to be performed. JHA shall be included with the Site Safety Plan submitted by the contractor.
- Submit a Site Safety Plan and Safety Program within 15 days of issuance of the Notice to Proceed, or as otherwise directed. The Site Safety Plan and Safety Program are subject to review and acceptance by the Construction Safety Unit prior to the commencement of work at the site. The Site Safety Plan shall be revised and updated as necessary.
- Ensure that all employees are aware of the hazards associated with the project through formal and informal training and/or other communications. Conduct and document weekly safety meetings for the duration of the project. Documentation to be provided to the RE/CPM/CM on a monthly basis.
- Name a Construction Superintendent, if required.
- Name a Job Site Safety Coordinator. The Contractor will be required to identify the Job Site Safety Coordinator in the Site Safety Plan.
- Comply with all mandated federal, state and local safety and health rules and regulations.
- Comply with all provisions of the Site Safety Plan.
- As part of the Site Safety Plan, prepare a site specific MPT (if not otherwise provided in the contract documents) and comply with all of its provisions.

- Conduct and document site-specific safety orientation for Contractor personnel to review the hazards associated with the project as identified in the Site Safety Plan and the specific safety procedures and controls that will be used to protect workers, the general public and property. The Job Site Safety Coordinator will conduct this training prior to mobilization and provide documentation to the RE/CPM/CM.
- Provide, replace and adequately maintain at or around the project site, suitable and sufficient signage, lights, barricades and enclosures (fences, sidewalk sheds, netting, bracing, etc.).
- Report unsafe conditions or hazards to the DDC RE/CPM/CM as soon as practical, but no more than 24 hours after discovery, and take action to remove or abate such conditions.
- Report any accident involving injuries to workers or the general public, as well as property damage, to the DDC RE/CPM/CM within two (2) hours.
- Notify the DDC RE/CPM/CM within two (2) hours of the start of an inspection by any regulatory agency personnel, including OSHA.
- Maintain all records pertaining to all required compliance documents and accident and injury reports.
- Respond to DDC recommendations on safety, which shall in no way relieve the Contractor of its responsibilities for safety on the project. The Contractor has sole responsibility for safety.

V. SAFETY QUESTIONNAIRE

DDC requires that all Contractors provide information regarding their current and past safety and environmental performance and programs. This will be accomplished by the use of the DDC Safety Questionnaire. As a part of the bid submittal package, the contractor must submit a completed DDC Safety Questionnaire listing their workers' compensation experience modification rating and OSHA Incidence Rates for the three (3) years prior to the date of the bid opening. DDC may request a Contractor to update its Questionnaire at any time or to provide more detailed information. The Contractor must provide the requested update within 30 days.

The following criteria will be used by DDC in reviewing the Contractor's responsibility, which will be based on the information provided on the questionnaire:

Criteria 1: OSHA Injury and Illness Rates (I&IR) are no greater than the average for the industry (based on the most current Bureau of Labor Statistics data for the Contractors SIC code); and
Criteria 2: Insurance workers compensation Experience Modification Rate (EMR) equal to or less than 1.0; and
Criteria 3: Any willful violations issued by OSHA or NYC DOB within the last three years; and
Criteria 4: A fatality (worker or member of public) experienced on or near Contractor's worksite within the last three (3) years; and
Criteria 5: An unacceptable rating by QACS based on past performance on DDC projects; and
Criteria 6: Contractor has in place an acceptable corporate safety program and its employees shall have completed all documented relative safety training; and
Criteria 7: Contractor shall provide OSHA Injury Records (currently OSHA 300 Log) for the last three (3) years.

If the Contractor fails to meet the basic criteria listed above, the Construction Safety Unit may request, through the ACCO, more detail concerning the Contractor's safety experience. DDC may request the Contractor to provide copies of, among other things, OSHA records, OSHA and DOB citations, EPA citations and written Safety Programs.

VI. SAFETY PROGRAM AND SITE SAFETY PLAN

Within fifteen (15) days of issuance of the Notice to Proceed, or as otherwise directed, the Contractor shall submit the following: (1) Safety Program, and (2) Site Safety Plan. The Safety Program shall set forth the Contractor's overall safety policy, regulatory compliance plan and minimum safety standard, and the Site Safety Plan shall identify hazards associated with the project, and include specific safety precautions and training appropriate and necessary to complete the work. The Safety Program and the Site Safety Plan are subject to review and acceptance by the Construction Safety Unit prior to the commencement of work at the site. Failure by the contractor to submit an acceptable Site Safety Plan and Safety Program shall be grounds for default.

The Site Safety Plan shall apply to all Contractor and subcontractor operations, and shall have at a minimum, the following elements. Each element shall be described in a separate section in the written document. It may be necessary to modify the basic format for certain unique or high-risk projects (such as tunnels or high-rise construction). The basic elements are as follows:

1. Responsibility and Organization: Identify the person or persons with authority and responsibility for implementing the Site Safety Plan. Provide an organization chart and define levels of authority and responsibility. Identify the Competent Person, the Construction Superintendent (if required), the Job Safety Coordinator and the Qualified Person required for this project.

2. Communication: Establish a system for communicating with employees and subcontractors on matters relating to worker and public safety and health and environmental protection, including provisions designed to encourage employees to inform the employer of hazards at the worksite without fear of reprisal. An emergency response notification protocol is to be established that also includes after hours contact numbers. The plan must also include provisions for weekly safety meetings held by the Job Site Safety Coordinator.

3. Job Hazard Assessment: A written document submitted by the contractor, used to identify expected job hazards and public safety risks and state the specific means and methods to reduce, control or eliminate those hazards. This part of the Site Safety Plan must also include how on-going evaluations of those risks and hazards will be carried out, including plans for periodic inspections to identify unsafe conditions, work practices and public safety hazards.

4. Accident/Exposure Investigation: Establish a procedure to investigate and report occupational and public injury or illness, property damage, vehicle accidents or other mishaps.

5. Hazard Correction: Establish means, methods and/or procedures for correcting unsafe or unhealthy conditions that might be exposing both the public and workers to hazards. Corrective actions must be taken immediately when observed or discovered. Should an imminent hazard exist which cannot be immediately abated without endangering employees, the public and/or property, remove or restrict all exposed persons from the area except those necessary to correct the existing condition. Employees necessary to correct the hazardous condition shall be provided the necessary safeguards. When corrective actions cannot be taken immediately, temporary measures should be taken until such time permanent measures are taken to eliminate the potential risks or hazards

6. Training: Describe site-specific hazard training programs. In addition to the required safety orientation, additional site specific training, in the form of required weekly safety meetings, will be required. Contractors must also initiate training when: a) new employees are hired; b) employees are given new job assignments for which training has not been previously received; c) new substances, processes, procedures or equipment are introduced that might represent a new public or worker hazard; d) the employee is made aware of a new or previously unrecognized hazard; e) new supervisors are assigned to familiarize themselves with the safety and health hazards to which employees under their immediate direction and control may be exposed; and f) after a jobsite incident or accident has occurred.

7. Recordkeeping: Establish procedures to maintain records of scheduled and periodic inspections, weekly safety meetings, and training records. Updated records shall be maintained at the jobsite, accessible to the Construction Safety Auditors and/or Quality Assurance Auditors/RE/CPM, and retained in accordance with DDC policy.

The most critical component of the Site Safety Plan is the Job Hazard Assessment section. This section must address specific hazards that are anticipated throughout the project. Each Site Safety Plan must address, at a minimum:

- Public and pedestrian safety
- Fall protection
- Electrical hazards
- Scaffolding
- Fire protection
- Emergency notification & response
- Housekeeping / debris removal
- Dust control
- Maintenance and protection of traffic
- Trenching and excavating
- Heavy equipment operations
- Material / equipment storage
- Environmental contamination
- Sheeting and shoring
- Alcohol and Drug Abuse Policy

The following additional hazards must be addressed, if applicable, based on the contract safety specifications and/or the results of the JHA (the list is not all-inclusive):

- Basic Personal Protective Equipment
- Compressed Air
- Compressed Gas Cylinders
- Cranes, Derricks and Hoists
- Demolition
- Electrical safety
- Excavations and Trenching
- Fall Protection – Floor openings/Stairways
- Fall Protection – Guardrails Toe boards etc
- Fall Protection – Leading Edge
- Fall Protection – Personal Fall Protection Devices
- Fire Protection and Fire Prevention
- Hazard Communication (RIGHT TO KNOW)
- Hazardous Energy & Lock Out / Tag Out
- Housekeeping/ Sanitation
- Maintenance and Protection of Traffic (MPT)
- Man Lifts /Aerial Lifts
- Marine Operations
- Motor Vehicle Safety
- Overhead Power lines
- Permit Required Confined Space
- Portable Ladders
- Powered Actuated Tools
- Powered Material Handling Equipment
- Scaffolds – Mobile
- Scaffolds – Stationary
- Scaffolds – Suspended
- Slings
- Steel Erection

- Welding and Cutting (Hot Work)
- Airborne Contaminants – Particulates – General
- Asbestos
- Blood borne Pathogens
- Hearing Protection
- Lead in Construction
- Mercury in Construction
- PCB's
- Respiratory Protection
- Silica
- Thermal Stress
- West Nile Virus
- Rodents and Vermin
- Noise Mitigation Plan

Certain DDC programs, such as Job Order Contracting System (JOCS), may not necessarily require Site Safety Plans. The JOCS contractor will be required to submit a Safety Program. In addition, certain DDC Operating Units may establish program or client-specific safety requirements. The contractor's Site Safety Plan must address such program or client specific safety requirements.

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

As part of the construction kick-off meeting, a Site Safety Plan review will be part of the agenda. A QACS representative will participate in this meeting with the contractor prior to the start of the project for the purpose of:

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

VIII. EVALUATION DURING WORK IN PROGRESS

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

A. Use of a safety checklist by a representative of the Construction Safety Unit or other designated DDC representative or Consultant during regular, unannounced inspections of the job site. Field Exit Conferences will be held with the RE/CPM, Contractor Superintendents or Safety Representatives.

B. The RE/CPM will continually monitor the safety and environmental performance of the contractor's employees and work methods. Deficiencies shall be brought to the attention of the contractor's representative on site for immediate correction. The DDC representative will maintain a written record of these deficiencies and forward them to the Construction Safety Unit on a weekly basis. Any critical deficiencies shall be immediately reported to QACS phone# (718) 391-1624 or (718) 391-1911.

C. If the Contractor's safety performance during the project is not up to DDC standards (safety performance measure, accident/incident rate, etc.) the Director- QACS, or designee will meet with the Contractor's safety representative, the DDC project manager, the RE/CPM, or the DDC Environmental Specialist (if environmental issues are involved). The purpose of this meeting is to 1) determine the level of non-compliance; 2) explain and clarify the safety/environmental provisions; 3) agree on a future course of action to correct the deficiencies.

D. If the deficiencies continue to occur with inadequate attention by the contractor, this shall, among other remedies available, be grounds for default.

E. The contractor shall inform the Construction Safety Unit and ACCO Insurance and Risk Management Unit of all medical injuries or illnesses that require doctors' treatment resulting from an on-the-job incident within 24 hours of the occurrence. The Construction Safety Unit shall also be immediately informed of all fatalities, catastrophic accidents with more than one employee hospitalized, any injuries to members of the general public and major equipment damage (e.g., property damage, equipment rollovers, loads dropped from crane). QACS shall maintain a record of all contractor injuries and illnesses during the project and provide regular reports to the Agency.

F. The Construction Safety Unit shall be immediately notified at the start of any NYS-DOL/ NYC-COSH/ OSHA/ EPA inspections. The Director of Quality Assurance & Construction Safety shall maintain a log of all contractor OSHA/EPA inspections and citations during the project.

IX. SAFETY PERFORMANCE EVALUATION

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

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CITY OF NEW YORK

STANDARD CONSTRUCTION CONTRACT

SEPTEMBER 2008

(NO TEXT ON THIS PAGE)

CITY OF NEW YORK
STANDARD CONSTRUCTION CONTRACT

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WITNESSETH:

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

CHAPTER I
THE CONTRACT AND DEFINITIONS

ARTICLE 1. THE CONTRACT

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

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

1.1.2 The Contract Drawings and Specifications;

1.1.3 The General Conditions and Special Conditions, if any;

1.1.4 The Contract;

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

1.1.6 The Budget Director's Certificate; all Addenda issued prior to the receipt of the bids; the Notice of Award; Performance and Payment Bonds, if required; and the Notice to Proceed with the Work.

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

ARTICLE 2. DEFINITIONS

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

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

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

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

2.1.4 **"City"** shall mean the City of New York.

2.1.5 **"City Chief Procurement Officer" (CCPO)** shall mean a person delegated authority by the Mayor to coordinate and oversee the procurement activity of Mayoral agency staff, including the ACCO and any offices which have oversight responsibility for the procurement of construction.

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

2.1.7 **"Comptroller"** shall mean the Comptroller of the City of New York.

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

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

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

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

2.1.12 **"Days"** shall mean calendar days, except where otherwise specified.

2.1.13 **"Engineer"** or **"Architect"** or **"Project Manager"** shall mean the person so designated in writing by the Commissioner to act as such in relation to this Contract, including a private Architect or Engineer or Project Manager, as the case may be.

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

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

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

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

2.1.18 **"Final Approved Punch List"** shall mean a list, approved in writing by the Engineer, specifying those items of Work to be completed by the Contractor after Substantial Completion and dates for the completion of each item of Work.

2.1.19 **"Law"** or **"Laws"** shall mean the Constitution of the State of New York, the New York City Charter, the New York City Administrative Code, a Statute of the United States or

of the State of New York, a local law of the City of New York, any ordinance, rule or regulation having the force of law, or common law.

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

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

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

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

2.1.24 **"Project"** shall mean the public improvement to which this Contract relates.

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

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

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

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

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

2.1.30 **"Subcontractor"** shall mean any person, firm or corporation, other than employees of the Contractor, who or which contracts with the Contractor or with its Subcontractors to furnish, or actually furnishes labor, or labor and materials, or labor and equipment, at the site. Wherever the word Subcontractor appears, it shall also mean Sub-Subcontractor.

2.1.31 **"Substantial Completion"** shall mean the written determination by the Commissioner that the Work required under this Contract is substantially, but not entirely, complete.

2.1.32 **"Treasurer"** shall mean the Commissioner of the Department of Finance of the City of New York.

2.1.33 **"Work"** shall mean all services required to complete the Project in accordance with the Contract Documents, including without limitation, labor, material, superintendence, management, administration, equipment, and incidentals, and shall include both Contract Work and Extra Work.

CHAPTER II
THE WORK AND ITS PERFORMANCE

ARTICLE 3. CHARACTER OF THE WORK

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

ARTICLE 4. MEANS AND METHODS OF CONSTRUCTION

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

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

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

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

4.2 The **Engineer's** approval of the **Contractor's Means and Methods of Construction**, or his/her failure to exercise his/her right to reject such means or methods, shall not relieve the **Contractor** of its obligation to complete the **Work** as provided in this **Contract**; nor shall the exercise of such right to reject create a cause of action for damages.

ARTICLE 5. COMPLIANCE WITH LAWS

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

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

5.3 Noise control code provisions.

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

emitted or produced by such devices and activities, in accordance with regulations issued by the **Commissioner** of the Department of Environmental Protection.

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

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

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

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

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

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

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

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

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

5.4.2 Ultra Low Sulfur Diesel Fuel

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

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

5.4.2(c) Contractors shall not be required to comply with this Article 5.4.2 where the agency letting this contract makes a written finding, which is approved, in writing, by the DEP Commissioner, that a sufficient quantity of Ultra Low Sulfur Diesel Fuel, or diesel fuel that has a sulfur content of no more than thirty parts per million is not available to meet the requirements of Section 24-163.3 of the Administrative Code, provided that such Contractor in its fulfillment of the requirements of this **Contract**, to the extent practicable, shall use whatever quantity of Ultra Low Sulfur Diesel Fuel or diesel fuel that has a sulfur content of no more than thirty parts per million is available. Any finding made pursuant to this subdivision shall expire after sixty days, at which time the requirements of this Article 5.4.2 shall be in full force and effect unless the Agency renews the finding in writing and such renewal is approved by the DEP Commissioner.

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

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

5.4.3 Best Available Technology

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

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

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

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

5.4.3(d)(1) Where the agency makes a written finding, which is approved, in writing, by the DEP Commissioner, that the best available technology for reducing the emission of pollutants as required by those paragraphs is unavailable for such vehicle, Contractor shall use whatever technology for reducing the emission of pollutants, if any, is available and appropriate for such vehicle.

5.4.3(d)(2) Where the DEP Commissioner has issued a written waiver based upon the Contractor having demonstrated to the DEP Commissioner that the use of the best available technology for reducing the emission of pollutants might endanger the operator of such vehicle or those working near such vehicle, due to engine malfunction, Contractor shall use whatever technology for reducing the emission of pollutants, if any, is available and appropriate for such vehicle, which would not endanger the operator of such vehicle or those working near such vehicle.

5.4.3(d)(3) In determining which technology to use for the purposes of Articles 5.4.3(d)(1) and 5.4.3(d)(2) above, Contractor shall primarily consider the reduction in emissions of particulate matter and secondarily consider the reduction in emissions of nitrogen oxides associated with the use of such technology, which shall in no event result in an increase in the emissions of either such pollutant.

5.4.3(d)(4) Contractors shall submit requests for a finding or a waiver pursuant to this Article 5.4.3(d) in writing to the DEP Commissioner, with a copy to the ACCO of the Agency issuing the solicitation. Any finding or waiver made or issued pursuant to Articles 5.4.3(d)(1) and 5.4.3(d)(2) above shall expire after one hundred eighty days, at which time the requirements of Article 5.4.3(a) shall be in full force and effect unless the Agency renews the finding, in writing, and the DEP Commissioner approves such finding, in writing, or the DEP Commissioner renews the waiver, in writing.

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

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

5.4.5 Compliance

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

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

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

5.4.6 Reporting

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

5.4.6(1) The total number of diesel-powered Nonroad Vehicles used to fulfill the requirements of this Public Works Contract;

5.4.6(2) The number of such Nonroad Vehicles that were powered by Ultra Low Sulfur Diesel Fuel;

5.4.6(3) The number of such Nonroad Vehicles that utilized the best available technology for reducing the emission of pollutants, including a breakdown by vehicle model and the type of technology;

5.4.6(4) The number of such Nonroad Vehicles that utilized such other authorized technology in accordance with Article 5.4.3, including a breakdown by vehicle model and the type of technology used for each such vehicle;

5.4.6(5) The locations where such Nonroad Vehicles were used; and

5.4.6(6) Where a determination is in effect pursuant to Article 5.4.2(b) or 5.4.2(c), detailed information concerning the Contractor's efforts to obtain Ultra Low Sulfur Diesel Fuel or diesel fuel that has a sulfur content of no more than thirty parts per million.

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

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

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

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

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

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

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

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

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

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

ARTICLE 6. INSPECTION

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

6.2 The **Contractor's** obligation hereunder shall include the uncovering or taking down of finished **Work** and its restoration thereafter; provided, however, that the order to uncover, take down and restore shall be in writing, and further provided that if **Work** thus exposed proves satisfactory, and if the **Contractor** has complied with Article 6.1, such uncovering or taking down and restoration shall be considered an item of **Extra Work** to be paid for in accordance with the provisions of Article 26. If the **Work** thus exposed proves unsatisfactory, the **City** has no obligation to compensate the **Contractor** for the uncovering, taking down or restoration.

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

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

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

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

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

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

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

7.3.2 The **Contractor** shall notify in writing the commercial general liability insurance carrier, and, where applicable, the worker's compensation and/or other insurance carrier, of any such loss, damage, injury, or accident, and any claim or suit arising therefrom, immediately, but not later than 20 days after such event. The **Contractor's** notice to the commercial general liability insurance carrier must expressly specify that "this notice is being given on behalf of the City of New York as Additional Insured as well as [the Contractor] as Named Insured." The Contractor's notice to the insurance carrier shall contain the following information: the name of the **Contractor**, the number of the **Contract**, the date of the occurrence, the location (street address and borough) of the occurrence, and the identity of the persons or things injured, damaged or lost.

7.3.2(a) At the time notice is provided to the insurance carrier(s), the **Contractor** shall provide copies of such notice to the **Comptroller** and the **Commissioner**. Notice to the **Comptroller** shall be sent to the Insurance Unit, NYC Comptroller's Office, 1 Centre Street – Room 1222, New York, New York, 10007. Notice to the **Commissioner** shall be sent to the address set forth in Schedule A of the General Conditions.

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

7.4 To the fullest extent permitted by law, the **Contractor** shall indemnify, defend and hold the **City**, its employees and agents (the "Indemnitees") harmless against any and all claims (including but not limited to claims asserted by any employee of the **Contractor** and/or its **Subcontractors)** and costs and expenses of whatever kind (including but not limited to payment or reimbursement of attorneys' fees and disbursements) allegedly arising out of or in any way related to the operations of the **Contractor** and/or its **Subcontractors** in the performance of this **Contract** or from the **Contractor's** and/or its **Subcontractors'** failure to comply with any of the provisions of this **Contract** or of the **Law**. Such costs and expenses shall include all those incurred in defending the underlying claim and those incurred in connection with the enforcement of this Article 7.4 by way of cross-claim, third-party

claim, declaratory action or otherwise. The parties expressly agree that the indemnification obligation hereunder contemplates (1) full indemnity in the event of liability imposed against the Indemnitees without negligence and solely by reason of statute, operation of law or otherwise; and (2) partial indemnity in the event of any actual negligence on the part of the Indemnitees either causing or contributing to the underlying claim (in which case, indemnification will be limited to any liability imposed over and above that percentage attributable to actual fault whether by statute, by operation of law, or otherwise). Where partial indemnity is provided hereunder, all costs and expenses shall be indemnified on a pro rata basis.

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

7.5 The **Contractor** waives all rights against the **City** for any damages or losses for which either is covered under any insurance required under Article 22 (whether or not such insurance is actually procured) or any other insurance applicable to the operations of the **Contractor** and/or its **Subcontractors** in the performance of this **Contract**.

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

CHAPTER III
TIME PROVISIONS

ARTICLE 8. COMMENCEMENT AND PROSECUTION OF THE WORK

8.1 The **Contractor** shall commence **Work** on the date specified in a written notice signed by the **Commissioner**. The time for performance of the **Work** under the **Contract** shall be computed from the date specified in such written notice. **TIME BEING OF THE ESSENCE** to the **City**, the **Contractor** shall thereafter prosecute the **Work** diligently, using such **Means and Methods of Construction** as are in accord with Article 4 herein and as will assure its completion not later than the date specified herein, or on the date to which the time for completion may be extended.

ARTICLE 9. PROGRESS SCHEDULES

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

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

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

9.1.3 The estimated time required for fabrication or delivery, or both, of all materials and equipment required for the **Work**; and

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

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

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

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

ARTICLE 10. REQUESTS FOR INFORMATION OR APPROVAL

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

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

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

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

11.1.1 Within seven (7) **Days** after the commencement of such condition, the **Contractor** must notify the **Engineer** in writing of the existence, nature and effect of such condition upon the approved progress schedule and the **Work**, and must state why and in what respects, if any, the condition is causing or may cause a delay.

11.1.2 If the **Contractor** shall claim to be sustaining damages for delay, by reason of any act or omission of the **City** or its agents, it shall submit to the **Commissioner** within forty-five (45) **Days** from the time such damages are first incurred, and every thirty (30) **Days** thereafter for as long as such damages are incurred, verified statements of the details and the amounts of such damages, together with documentary evidence of such damages. The **Contractor** may submit any of the above statements within such additional time as may be granted by the **Commissioner** in writing upon written request therefor. Failure of the **Commissioner** to respond in writing to a written request for additional time within thirty (30) **Days** shall be deemed a denial of the request. On failure of the **Contractor** to fully comply with the foregoing provisions, such claims shall be deemed waived and no right to recover on such claims shall exist. Damages that the **Contractor** may claim in any action arising under or by reason of this **Contract** shall not be different from or in excess of the statements made and documentation provided pursuant to this article.

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

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

ARTICLE 12. COORDINATION WITH OTHER CONTRACTORS

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

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

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

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

12.5 Should the **Contractor** sustain any damage through any act or omission of any **Other Contractor** having a contract with the **City** for the performance of work upon the **Site** or of work which may be necessary to be performed for the proper prosecution of the **Work** to be performed hereunder, or through any act or omission of a **Subcontractor** of such **Contractor**, the **Contractor** shall have no claim against the **City** for such damage, but shall have a right to recover such damage from the **Other Contractor** under the provision similar to the following provisions which apply to this **Contract** and have been or will be inserted in the contracts with such **Other Contractors**:

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

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

ARTICLE 13. EXTENSION OF TIME FOR PERFORMANCE

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

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

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

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

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

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

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

13.4 The **Contractor** shall not be entitled to receive a separate extension of time for each of several causes of delay operating concurrently, but, if at all, only for the actual period of delay in completion of the **Work** as determined by the **Commissioner** or the Board, irrespective of the number of causes contributing to produce such delay. If one of several causes of delay operating concurrently results from any act, fault or omission of the **Contractor** or of its **Subcontractors** or **Materialmen**, and would of itself (irrespective of the concurrent causes) have delayed the **Work**, no extension of time will be allowed for the period of delay resulting from such act, fault or omission.

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

13.6 The granting of an application for an extension of time for causes of delay other than those herein referred to shall be entirely within the discretion of the **Commissioner** or the Board.

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

13.8 Application for Extension of Time:

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

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

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

13.8.1(c) Original bid amount;

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

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

13.8.1(f) The extension of time requested.

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

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

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

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

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

13.9 Analysis and Approval of Time Extensions:

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

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

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

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

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

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

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

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

13.10 No Damage for Delay: The **Contractor** agrees to make no claim for damages for delay in the performance of this **Contract** occasioned by any act or omission to act of the **City** or any of its representatives, and agrees that all it may be entitled to on account of any such delay is an extension of time to complete performance of the **Work** as provided herein.

ARTICLE 14. COMPLETION AND FINAL ACCEPTANCE OF THE WORK

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

14.2 Determining the Date of **Substantial Completion**: The **Work** will be deemed to be substantially complete when the two conditions set forth in Articles 14.2.1 and 14.2.2 have been met. The **Commissioner** will then issue a Certificate of **Substantial Completion**.

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

14.2.2 Approval of Final Punch List and Date for **Final Acceptance**: Following inspection of the **Work**, the **Engineer** shall furnish the **Contractor** a final punch list, specifying all items of **Work** to be completed. The **Contractor** shall then submit to the **Engineer** dates for the completion of each specified item of **Work**. Within a reasonable time after receipt, the **Engineer**, in a written notification to the **Contractor**, shall approve the **Contractor's** completion dates or, if they are unable to agree, shall establish dates for the completion of each item of **Work**. The latest completion date specified shall be the date for **Final Acceptance** of the **Work**.

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

14.4 Request for Inspection: Inspection of the **Work** by the **Engineer** for the purpose of **Substantial Completion** or **Final Acceptance** shall be made within ten (10) **Days** after receipt of the **Contractor's** written request therefor.

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

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

ARTICLE 15. LIQUIDATED DAMAGES

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

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

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

ARTICLE 16. OCCUPATION OR USE PRIOR TO COMPLETION

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

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

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

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

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

CHAPTER IV
SUBCONTRACTS AND ASSIGNMENTS

ARTICLE 17. SUBCONTRACTS

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

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

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

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

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

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

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

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

17.8 The **Contractor** shall be responsible for ensuring that all **Subcontractors** performing **Work** at the **Site** have either their own insurance coverage or are covered by the **Contractor's** insurance as required by Article 22.

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

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

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

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

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

17.11 On **Contracts** where 100% performance bonds and payment bonds are executed, the **Contractor** shall include on each requisition for payment the following data: **Subcontractor's** name, value of the subcontract, total amount previously paid to **Subcontractor** for **Work** previously requisitioned, and the amount, including retainage, to be paid to the **Subcontractor** for **Work** included in the requisition.

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

ARTICLE 18. ASSIGNMENTS

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

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

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

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

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

CHAPTER V
CONTRACTOR'S SECURITY AND GUARANTY

ARTICLE 19. SECURITY DEPOSIT

19.1 The bid deposit, if required, shall be retained by the **Comptroller** as security for the **Contractor's** faithful performance of the **Contract** and will be returned to the **Contractor** only after the sum retained under Article 21 equals the amount of the bid deposit, subject to the other provisions of this **Contract**. If performance and payment bonds are required, any bid security posted shall be returned within a reasonable time after posting of such bonds and execution of this **Contract** by the **City**. When no partial payments are provided, the bid deposit will be released when final payment is certified to the **Comptroller** for payment.

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

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

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

ARTICLE 20. PAYMENT GUARANTEE

20.1 On **Contracts** where 100% performance bonds and payment bonds are executed, this article does not apply.

20.2 In the event the terms of this **Contract** do not require the **Contractor** to provide a payment bond, the **City** shall, in accordance with the terms of this article, guarantee payment of all lawful demands for:

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

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

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

20.3.1 The guarantee is made for the benefit of all beneficiaries as defined in Article 20.2 provided that those beneficiaries strictly adhere to the terms and conditions of this Article 20.3.

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

20.3.3 All demands made against the **City** pursuant to this article shall be made within four (4) months from the date payment is due on the invoice or invoices submitted by the beneficiary to the **Contractor** for labor or **Work** done or for materials or supplies delivered, or, if the demand is for wages, four (4) months from the date the wages were due to be paid to the beneficiary.

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

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

20.3.6 The **City** will not initiate the payment process of this article or make payment on a demand where the beneficiary making the demand has filed a lien against the **Work** or otherwise sues the **City** prior to receiving a written notice from the **City** that it will not pay the demand.

20.3.7 No beneficiary shall be entitled to interest from the **City**, or to any other costs, including, but not limited to, attorney's fees.

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

20.4.1 In the event the **City** determines that the demand is valid, the **City** shall notify the **Contractor** of such determination and the amount thereof, and direct the **Contractor** to immediately pay such amount to the beneficiary. In the event the **Contractor**, within seven (7) days of receipt of such notification from the **City**, fails to pay the beneficiary, such failure shall constitute an automatic

and irrevocable assignment of payment by the **Contractor** to the beneficiary for the amount of the demand determined by the **City** to be valid. The **Contractor**, without further notification or other process, hereby gives its unconditional consent to such assignment of payment to the beneficiary and authorizes the **City**, on its behalf, to take all necessary actions to implement such assignment of payment, including without limitation the execution of any instrument or documentation necessary to effectuate such assignment.

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

20.4.2 In the event the **City** determines that the demand is invalid, any amount withheld pending the City's review of such demand shall be paid to the **Contractor**; provided, however, no lien has been filed. In the event a lien has been filed, the terms and conditions set forth in Article 23 shall apply.

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

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

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

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

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

ARTICLE 21. RETAINED PERCENTAGE

21.1 If this **Contract** requires 100% performance and payment security, then as further security for the faithful performance of this **Contract**, the **Commissioner** shall deduct, and retain until the substantial completion of the **Work**, five (5%) percent of the value of **Work** certified for payment in each partial payment voucher.

21.2 If this **Contract** does not require 100% performance and payment security and if the price for which this **Contract** was awarded does not exceed $500,000, then as further security for the faithful performance of this **Contract**, the **Commissioner** shall deduct, and retain until the substantial completion of the **Work**, ten (10%) percent of the value of **Work** certified for payment in each partial payment voucher.

21.3 If this **Contract** does not require 100% performance and payment security and if the price for which this **Contract** was awarded exceeds $500,000, then as further security for the faithful performance of this **Contract,** the **Commissioner** shall deduct, and retain until the substantial completion of the **Work,** up to ten (10%) percent of the value of **Work** certified for payment in each partial payment voucher. The percentage to be retained is set forth in Schedule A of the General Conditions.

NYASP-1 OP ID: LD

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY) 12/17/13

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER Middleton & Company 186 Halsey Road Newton, NJ 07860 House Account	973-383-5525 973-383-9602
CONTACT NAME:	
PHONE (A/C, No, Ext):	FAX (A/C, No):
E-MAIL ADDRESS:	

INSURER(S) AFFORDING COVERAGE	NAIC #
INSURER A : The Travelers Indemnity Co.	25658
INSURER B : Ohio Casualty Insurance Co.	24074
INSURER C :	
INSURER D :	
INSURER E :	
INSURER F :	

INSURED
NY Asphalt, Inc.
73 Industrial Loop
Staten Island, NY 10309

COVERAGES **CERTIFICATE NUMBER:** **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSR	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	GENERAL LIABILITY X COMMERCIAL GENERAL LIABILITY CLAIMS-MADE X OCCUR X GL Extension-Als GEN'L AGGREGATE LIMIT APPLIES PER: POLICY X PRO-JECT LOC	X		CO8C723232	03/10/13	03/10/14	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG Emp Ben.	$ 1,000,000 $ 300,000 $ 10,000 $ 1,000,000 $ 2,000,000 $ 2,000,000 $ 1,000,000
A	AUTOMOBILE LIABILITY X ANY AUTO ALL OWNED AUTOS SCHEDULED AUTOS HIRED AUTOS NON-OWNED AUTOS	X		BA8C723232	03/10/13	03/10/14	COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident)	$ 1,000,000 $ $ $ $
A	X UMBRELLA LIAB X OCCUR EXCESS LIAB CLAIMS-MADE DED X RETENTION $ 10,000	X		4TSMCUP8C723232IND13	03/10/13	03/10/14	EACH OCCURRENCE AGGREGATE	$ 5,000,000 $ 5,000,000 $
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) Y / N If yes, describe under DESCRIPTION OF OPERATIONS below	N / A					WC STATU-TORY LIMITS OTH-ER E.L. EACH ACCIDENT E.L. DISEASE - EA EMPLOYEE E.L. DISEASE - POLICY LIMIT	$ $ $
B	Excess Umbrella			ECO1455826153	12/17/13	03/10/14	Aggregate Occurence	10,000,000 10,000,000

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

RE: FMS ID: P-USTA1 e-PIN: 85014B0032001 DDC PIN: 8502014HW0007C
USTA UN Avenue Connector Road Relocation - Borough of Queens

See Attached...

CERTIFICATE HOLDER

NEWYO-9

New York City Department
of Design & Construction
30-30 Thompson Avenue
Long Island City, NY 11101

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

Richard Baynon

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NOTEPAD:	HOLDER CODE NEWYO-9	NYASP-1	PAGE 2
	INSURED'S NAME NY Asphalt, Inc.	OP ID: LD	DATE 12/17/13

City of New York including its officials and employees are included as additional insured on the General Liability policy per form CGD246 08/05 and on the Business Auto policy per form CAT420 07/10. Both per the terms and conditions of their respective forms and when required by written contract or written agreement. Umbrella policy follows form for any organization or entity named as additional insured on the scheduled underlying policies.

NYSIF® New York State Insurance Fund
Workers' Compensation & Disability Benefits Specialists Since 1914
199 CHURCH STREET, NEW YORK, N.Y. 10007-1100
Phone: (212) 587-5526

CERTIFICATE OF WORKERS' COMPENSATION INSURANCE

^^^^^^ 134110973
NY ASPHALT INC
73 INDUSTRIAL LOOP
STATEN ISLAND NY 10309

POLICYHOLDER	CERTIFICATE HOLDER
NY ASPHALT INC 73 INDUSTRIAL LOOP STATEN ISLAND NY 10309	NYC DEPT OF DESIGN & CONSTRUCTION 30-30 THOMSON AVENUE LONG ISLAND CITY NY 11101

POLICY NUMBER	CERTIFICATE NUMBER	PERIOD COVERED BY THIS CERTIFICATE	DATE
V 2094 975-6	908744	03/08/2013 TO 03/08/2014	12/17/2013

THIS IS TO CERTIFY THAT THE POLICYHOLDER NAMED ABOVE IS INSURED WITH THE NEW YORK STATE INSURANCE FUND UNDER POLICY NO. 2094 975-6 UNTIL 03/08/2014, COVERING THE ENTIRE OBLIGATION OF THIS POLICYHOLDER FOR WORKERS' COMPENSATION UNDER THE NEW YORK WORKERS' COMPENSATION LAW WITH RESPECT TO ALL OPERATIONS IN THE STATE OF NEW YORK, EXCEPT AS INDICATED BELOW, AND, WITH RESPECT TO OPERATIONS OUTSIDE OF NEW YORK, TO THE POLICYHOLDER'S REGULAR NEW YORK STATE EMPLOYEES ONLY.

IF SAID POLICY IS CANCELLED, OR CHANGED PRIOR TO 03/08/2014 IN SUCH MANNER AS TO AFFECT THIS CERTIFICATE, 10 DAYS WRITTEN NOTICE OF SUCH CANCELLATION WILL BE GIVEN TO THE CERTIFICATE HOLDER ABOVE. NOTICE BY REGULAR MAIL SO ADDRESSED SHALL BE SUFFICIENT COMPLIANCE WITH THIS PROVISION. THE NEW YORK STATE INSURANCE FUND DOES NOT ASSUME ANY LIABILITY IN THE EVENT OF FAILURE TO GIVE SUCH NOTICE.

THIS POLICY DOES NOT COVER CLAIMS OR SUITS THAT ARISE FROM BODILY INJURY SUFFERED BY THE OFFICERS OF THE INSURED CORPORATION.

AMANDA GLANZ-PRES

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

NEW YORK STATE INSURANCE FUND

Sherwin Taylor

DIRECTOR,INSURANCE FUND UNDERWRITING

This certificate can be validated on our web site at https://www.nysif.com/cert/certval.asp or by calling (888) 875-5790
VALIDATION NUMBER: 250203284

U-26.3

ARTICLE 22. INSURANCE

22.1 Types of Insurance: From the date the **Contractor** is required to provide Proof of Insurance pursuant to Article 22.3.1 through the date of completion of all required **Work** (including punch list work as certified in writing by the **Resident Engineer**), the **Contractor** shall effect and maintain the following types of insurance if and as indicated in Schedule A of the General Conditions (with the minimum limits and special conditions specified in Schedule A). Such insurance shall be issued by companies that meet the standards of Article 22.2.1 and shall be primary (and non-contributing) to any insurance or self-insurance maintained by the **City.**

22.1.1 Commercial General Liability Insurance: The **Contractor** shall provide a Commercial General Liability Insurance policy covering the **Contractor** as Named Insured and the **City** as an Additional Insured. This policy shall protect the **City** and the **Contractor** from claims for property damage and/or bodily injury, including death, which may arise from any of the operations under this **Contract**. Coverage under this policy shall be at least as broad as that provided by ISO Form CG 0001 (10/01 ed.), must be "occurrence" based rather than "claims-made", and shall include, without limitation, the following types of coverage: Premises Operations, Products and Completed Operations, Contractual Liability (including the tort liability of another assumed in a contract), Broad Form Property Damage, Medical Payments, Independent Contractors, Personal Injury (Contractual Exclusion deleted), Explosion, Collapse and Underground Property, and Incidental Malpractice. If such insurance contains an aggregate limit, it shall apply separately to this **Project**.

22.1.1(a) Such Commercial General Liability Insurance shall name the City, together with its officials and employees, as an Additional Insured under this policy. Coverage for the City as Additional Insured shall specifically include the City's officials and employees, and shall be at least as broad as either Insurance Services Office ("ISO") Form CG 20 10 (07/04 ed.) or Form CG 20 33 (07/04 ed.) and shall provide completed operations coverage at least as broad as CG 20 37 (07/04 ed.).

22.1.1(b) If this **Contract** is equal to or greater than Ten Million Dollars ($10,000,000.00), each Commercial General Liability Insurance policy provided shall contain each of the following endorsements:

22.1.1(b)(i) The Duties in the Event of Occurrence, Claim or Suit condition of the policy is amended per the following: If and insofar as knowledge of an "occurrence", "claim", or "suit" is relevant to the City of New York as Additional Insured under this policy, such knowledge by an agent, servant, official, or employee of the City of New York will not be considered knowledge on the part of the City of New York of the "occurrence", "claim", or "suit" unless the following position shall have received notice thereof from such agent, servant, official, or employee: Insurance Claims Specialist, Affirmative Litigation Division, New York City Law Department; and

22.1.1(b)(ii) Any notice, demand or other writing by or on behalf of the Named Insured to the Insurance Company shall also be deemed to be a notice, demand, or other writing on behalf of the City as Additional Insured. Any response by the Insurance Company to such notice, demand or other writing shall be addressed to Named Insured and to the City at the following addresses: Insurance Unit, NYC Comptroller's Office, 1 Centre Street – Room 1222, New York, N.Y. 10007; and Insurance Claims Specialist, Affirmative Litigation Division, New York City Law Department, 100 Church Street, New York, NY 10007.

22.1.2 Workers' Compensation Insurance and Disability Benefits Insurance: The **Contractor** shall provide, and ensure that each **Subcontractor** provides, Workers Compensation Insurance and Disability Benefits Insurance in accordance with the **Laws** of the State of New York on behalf of all employees providing services under this **Contract** (except for those qualifying for insurance pursuant to Article 22.1.4).

22.1.3 Employers' Liability Insurance: The **Contractor** shall provide, and ensure that each **Subcontractor** provides, Employers Liability Insurance affording compensation due to bodily injury by accident or disease sustained by any employee arising out of and in the course of his/her employment under this Contract (except for those qualifying for insurance pursuant to Article 22.1.4).

22.1.4 United States Longshoremen's and Harbor Workers Act and/or Jones Act Insurance: The **Contractor** shall provide, and ensure that each **Subcontractor** provides, insurance in accordance with the United States Longshoremen's and Harbor Workers Act and/or the Jones Act, on behalf of all qualifying employees providing services under this **Contract.**

22.1.5 Builders' Risk Insurance: The **Contractor** shall provide a Builders' Risk Insurance policy covering all risks in completed value form. Such policy shall cover the total value of the **Work** performed in accordance with Schedule A, as well as the value of any equipment, supplies and/or material for the **Project** that may be in storage (on or off the **Site**) or in transit. The policy shall cover the cost of removing debris, including demolition as may be legally necessary by the operation of any law, ordinance or regulation, and for loss or damage to any owned, borrowed, leased or rented capital equipment, tools, including tools of their agents and employees, staging towers and forms, and property of the **City** held in their care, custody and/or control. Such policy shall name as insureds the **City**, the **Contractor,** and its **Subcontractors**. The Builders' Risk policy shall contain the following endorsements:

22.1.5(a) The **City** and the **Contractor** shall be named as loss payee for the **Work** in order of precedence, as their interest may appear; and

22.1.5(b) In the event the loss occurs at an occupied facility, the policy shall permit occupancy without the consent of the Insurance Company; and

22.1.5(c) In the event that the insurance policy has been issued by a mutual insurance company, the following language shall be included: "The City of New York is not liable for any premium or assessment under this policy of insurance. The First Named Insured is solely liable therefor."

22.1.6 Comprehensive Business Automobile Liability Insurance: The **Contractor** shall provide a Comprehensive Business Automobile Liability policy for liability arising out of any owned, non-owned, leased and hired vehicles to be used in connection with this **Contract**. Coverage should be at least as broad as ISO Form CA0001, ed. 10/01.

22.1.6(a) If autos are used for transporting hazardous materials, the Automobile Liability Insurance shall be endorsed to provide pollution liability broadened coverage for covered vehicles (endorsement CA 99 48) as well as proof of MCS 90.

22.1.7 Pollution/Environmental Liability Insurance: The **Contractor** shall provide Pollution/Environmental Liability Insurance covering bodily injury and property damage, including loss of use of damaged property or of property that has not been physically injured. Such insurance shall provide coverage for actual, alleged or threatened emission, discharge, dispersal, seepage, release or escape of pollutants (including asbestos), including any loss, cost or expense incurred as a

result of any cleanup of pollutants (including asbestos) or in the investigation, settlement or defense of any claim, suit, or proceedings against the **City** arising from the operations under this **Contract.** Such insurance shall be in the **Contractor's** name and list the **City** as an Additional Insured. Coverage for the **City** as Additional Insured shall specifically include the **City's** officials and employees, and shall be at least as broad as provided to the **Contractor** for this **Project.**

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

22.1.8 Marine Insurance:

22.1.8(a) Marine Protection and Indemnity Insurance: The **Contractor** shall provide a Marine Protection and Indemnity policy with coverage at least as broad as policy form SP-23. The policy shall provide coverage for the **Contractor** and for the **City** (together with its officials and employees) as Additional Insured for bodily injury and property damage arising from marine operations under this **Contract** including injury or death of crew members (if not fully provided through other insurance), damage to piers, wharves and other fixed or movable structures and loss of or damage to any other vessel or craft, or to property on such other vessel or craft, not caused by collision.

22.1.8(b) Ship Repairers Legal Liability Insurance: The **Contractor** shall provide a Ship Repairers Legal Liability Insurance policy covering all repair operations under this **Contract** at or in the vicinity of a designated approved port or yard under this **Contract.** The policy shall provide coverage from the point of acceptance of care custody and control of any **City** vessel. The policy shall provide Bailee Coverage for any **City** vessel in the **Contractor's** care, custody and control and coverage for damage to property of others caused by any **City** vessel in the **Contractor's** care custody and control.

22.1.8(c) Collision Liability/Towers Liability Insurance: The **Contractor** shall provide a Collision Liability/Towers Liability Insurance policy with coverage for the **Contractor** and for the **City** (together with its officials and employees) as Additional Insured at least as broad as the American Institute Tug Form (08/01/76) for all tugs used under this **Contract** and Collision Liability per American Institute Hull Clauses (6/2/77).

22.1.8(d) Marine Pollution Liability Insurance: The **Contractor** shall provide a Marine Pollution Liability Insurance policy covering itself as Named Insured and the **City** (together with its officials and employees) as Additional Insured for liability arising from the discharge or substantial threat of a discharge of oil, or from the release or threatened release of a hazardous substance including injury to, or economic losses resulting from, the destruction of or damage to real property, personal property or natural resources. Coverage under this policy shall be at least as broad as that provided by Water Quality Insurance Syndicate Form (09/98 ed.).

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

22.2 General Requirements for Insurance Policies:

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

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

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

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

22.2.5 All required insurance policies, except for insurance required pursuant to Sections 22.1.2, 22.1.3, and 22.1.4, shall contain the following endorsement: "This policy may not be cancelled, terminated, modified or changed unless thirty (30) days prior written notice is sent by the Insurance Company to the Named Insured (or First Named Insured, as appropriate), the **Commissioner**, and to the **Comptroller**, attn: Office of Contract Administration, Municipal Building, Room 1005, New York, New York 10007."

22.3 Proof of Insurance:

22.3.1 Within ten (10) **Days** of award, the **Contractor** shall, for each policy required under this **Contract,** except for Workers Compensation Insurance and Disability Benefits Insurance and builders' risk insurance, file a Certificate of Insurance with the **Commissioner** pursuant to Article 22.6. For Workers' Compensation Insurance and Disability Benefits Insurance, the **Contractor** shall file proof of insurance in a form acceptable to the **Commissioner** within ten (10) **Days** of award. Accord forms are not acceptable proof of workers' compensation coverage. The Contractor must submit one of the following forms to the Department, or another form acceptable to the Department: C-105.2 -- Certificate of Workers' Compensation Insurance, or U-26.3 -- State Insurance Fund Certificate of Workers' Compensation Insurance. For builders' risk insurance, the **Contractor** shall file a Certificate of Insurance with the **Commissioner** at the direction of the **Commissioner** but in any event no later than ten (10) **Days** prior to commencement of the **Work**.

22.3.1(a) All Certificates of Insurance shall be in a form acceptable to the **City** and shall certify the issuance and effectiveness of the types of insurance specified in Schedule A, each with the specified minimum limits and evidence of the compliance with the Additional Insured or Named Insured provisions of Articles 22.1.1(a), 22.1.5, 22.1.7, and 22.1.8, as applicable. All Certificate(s) of Insurance shall be accompanied by either a duly executed "Certification by Broker" in the form contained in Part II of Schedule A or completed copies of all policies referenced in the Certificate of Insurance. In the absence of completed policies, binders are acceptable.

22.3.2 Certificates of Insurance confirming renewals of insurance shall be submitted to the **Commissioner** prior to the expiration date of coverage of policies required under this **Contract.** Such Certificates of Insurance shall comply with the requirements of Article 22.3.1(a) and, if applicable, Article 22.3.1(b).

22.3.3 The **Contractor** shall be obligated to provide the **City** with a copy of any policy required by this Article 22 upon the demand for such policy by the **Commissioner** or the New York City Law Department.

22.4 Operations of the Contractor:

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

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

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

22.5 The **City** as Additional Insured or Loss Payee under **Subcontractors'** Insurance. The Contractor shall ensure that each **Subcontractor** name the **City** as Additional Insured or loss payee, as appropriate, under all policies covering **Work** performed by such **Subcontractor** under this **Contract**. The **City**'s coverage as Additional Insured shall include the **City's** officials and employees and be at least as broad as that provided to the **Contractor**. The foregoing requirements shall not apply to insurance provided pursuant to Articles 22.1.2, 22.1.3, and 22.1.4.

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

22.7 If the **Contract** involves disposal of hazardous materials, the **Contractor** shall dispose such materials only at sites where the disposal site operator maintains Pollution Legal Liability Insurance in the amount of at least $2,000,000 for losses arising from such disposal site.

22.8 Materiality/Non-Waiver: The **Contractor's** failure to secure policy(ies) in complete conformity with this Article, or to give the Insurance Company timely notice of any sort required in this **Contract** on behalf of the **City**, or to do anything else required by this Article shall constitute a material breach of this **Contract**. Such breach shall not be waived or otherwise excused by any action or inaction by the **City** at any time.

22.9 Other Remedies: Insurance coverage in the minimum amounts provided for herein shall not relieve the **Contractor** or **Subcontractors** of any liability under this **Contract**, nor shall it preclude the **City** from exercising any rights or taking such other actions as are available to it under any other provisions of this **Contract** or **Law**.

ARTICLE 23. MONEY RETAINED AGAINST CLAIMS

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

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

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

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

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

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

23.3 Liens: If at any time before or within thirty (30) **Days** after the **Work** is completed and accepted by the **City**, any persons claiming to have performed any labor or furnished any material toward the performance or completion of this **Contract**, shall file with the **Agency** and with the **Treasurer** any notice as is described in the New York State Lien **Law**, or any act of the Legislature of the State of New York, the **City** shall retain, from the monies due or to become due under this **Contract**, so much of such monies as shall be sufficient to pay the amount claimed in said notice, together with the reasonable costs of any action or actions brought or that may be brought to enforce such lien. The monies so retained shall be held by the **City** until the lien thereon created by the said act and the filing of the said notice shall be discharged pursuant to **Law**.

ARTICLE 24. MAINTENANCE AND GUARANTY

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

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

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

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

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

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

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

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

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

CHAPTER VI
CHANGES, EXTRA WORK AND DOCUMENTATION OF CLAIM

ARTICLE 25. CHANGES

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

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

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

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

25.3.2 By agreement of a fixed price; and/or

25.3.3 By time and material records; and/or

25.3.4 In any other manner approved by the **CCPO**.

25.4 All payments for change orders are subject to pre-audit by the **Engineering Audit Officer** and may be post-audited by the **Comptroller** and/or the **Department**.

ARTICLE 26. METHODS OF PAYMENT FOR OVERRUNS AND EXTRA WORK

26.1 Overrun of Unit Price Item: An overrun is any quantity of a unit price item which the **Contractor** is directed to provide which is in excess of one hundred twenty-five (125%) percent of the estimated quantity for that item set forth in the bid schedule.

26.1.1 For any unit price item, the **Contractor** will be paid at the unit price bid for any quantity up to one hundred twenty five (125%) percent of the estimated quantity for that item set forth in the bid schedule. If during the progress of the **Work,** the actual quantity of any unit price item required to complete the **Work** approaches the estimated quantity for that item, and for any reason it appears that the actual quantity of any unit price item necessary to complete the **Work** will exceed the estimated quantity for that item by twenty-five (25%) percent, the **Contractor** shall immediately notify the **Engineer** of such anticipated overrun. The **Contractor** shall not be compensated for any quantity of a unit price item provided which is in excess of one hundred twenty five (125%) percent of the estimated quantity for that item set forth in the bid schedule without written authorization from the Engineer.

26.1.2 If the actual quantity of any unit price item necessary to complete the Work will exceed one hundred twenty five (125%) percent of the estimated quantity for that item set forth in the bid schedule, the **City** reserves the right and the **Contractor** agrees to negotiate a new unit price for such item. In no event shall such negotiated new unit price exceed the unit bid price. If the **City** and **Contractor** cannot agree on a new unit price, then the **City** shall order the **Contractor** and the **Contractor** agrees to provide additional quantities of the item on a time and material basis for the actual and reasonable cost as determined under Article 26.2, but in no event at a unit price exceeding the unit price bid.

26.2 **Extra Work:** For **Extra Work** where payment is by agreement on a fixed price in accordance with Article 25.3.2, the price to be paid for such **Extra Work** shall be based on the fair and reasonable estimated cost of the items set forth below. For **Extra Work** where payment is on a time and material basis in accordance with Article 25.3.3, the price to be paid for such **Extra Work** shall be the actual and reasonable cost of the items set forth below.

26.2.1 Necessary materials (including transportation to the **Site**); plus

26.2.2 Necessary direct labor, including payroll taxes and supplemental benefits; plus

26.2.3 Sales and personal property taxes, if any, required to be paid on materials not incorporated into such **Extra Work**; plus

26.2.4 Reasonable rental value of **Contractor**-owned, necessary plant and equipment other than small tools, plus fuel/energy costs. Except for fuel costs for pick-up trucks which shall be reimbursed based on a consumption of five (5) gallons per shift, fuel costs shall be reimbursed based on actual costs or, in the absence of auditable documentation, the following fuel consumption formula per operating hour: (.035) x (HP rating) x (Fuel cost/gallon). Reasonable rental value is defined as the lower of either seventy-five percent of the monthly prorated rental rates established in "The AED Green Book, Rental Rates and Specifications for Construction Equipment" published by PRIMEDIA (the "Green Book"), or seventy-five percent of the monthly prorated rental rates established in the "Rental Rate Blue Book for Construction Equipment" published by PRIMEDIA (the "Blue Book"). The reasonable rental value is inclusive of all operating costs except for fuel/energy consumption and equipment operator's wages/costs. For multiple shift utilization, reimbursement shall be calculated as follows: first shift shall be seventy-five percent of such rental rates; second shift shall be sixty percent of the first shift rate; and third shift shall be forty

percent of the first shift rate. Equipment on standby shall be reimbursed at one-third the prorated monthly rental rate. **Contractor**-owned equipment includes equipment from rental companies affiliated with or controlled by the **Contractor,** as determined by the **Commissioner**. In establishing cost reimbursement for non-operating contractor-owned equipment (scaffolding, sheeting systems, road plates, etc.), the City may restrict reimbursement to a purchase-salvage/life cycle basis if less than the computed rental costs; plus

26.2.5 Necessary installation and dismantling of such plant and equipment, including transportation to and from the **Site,** if any, provided that, in the case of non-**Contractor**-owned equipment rented from a third party, the cost of installation and dismantling are not allowable if such costs are included in the rental rate; plus

26.2.6 Reasonable rental costs of non-**Contractor**-owned necessary plant and equipment other than small tools, plus fuel/energy costs. Except for fuel costs for pick-up trucks which shall be reimbursed based on a consumption of five (5) gallons per shift, fuel costs shall be reimbursed based on actual costs or, in the absence of auditable documentation, the following fuel consumption formula per hour of operation: (.035) x (HP rating) x (Fuel cost/gallon). In lieu of renting, the City reserves the right to direct the purchase of non-operating equipment (scaffolding, sheeting systems, road plates, etc.), with payment on a purchase-salvage/life cycle basis, if less than the projected rental costs; plus

26.2.7 Workers' compensation insurance, and any insurance coverage expressly required by the **City** for the performance of the **Extra Work** which is different than the types of insurance required by Article 22 and Schedule A of the General Conditions. The cost of workers' compensation insurance shall be based upon the Manual Rate for such insurance for the applicable work classifications/codes, in accordance with the most recent schedule promulgated by the New York Compensation Insurance Rating Board; plus

26.2.8 Additional costs incurred as a result of the **Extra Work** for performance and payment bonds; plus

26.2.9 Ten (10%) percent of the total of items in Articles 26.2.1 through 26.2.5 as compensation for overhead, except that no percentage for overhead will be allowed on **Payroll Taxes** or on the premium portion of overtime pay or on sales and personal property taxes. Overhead shall include without limitation, all costs and expenses in connection with administration, management superintendence, small tools, and insurance required by Schedule A of the General Conditions other than workers' compensation insurance; plus

26.2.10 Ten (10%) percent of the total of items in Articles 26.2.1 through 26.2.5, plus item 26.2.9, as compensation for profit, except that no percentage for profit will be allowed on **Payroll Taxes** or on the premium portion of overtime pay or on sales and personal property taxes; plus

26.2.11 Five (5%) percent of the total of items in Article 26.2.6, 26.2.7, and 26.2.8 as compensation for overhead and profit.

26.3 Where the **Extra Work** is performed in whole or in part by other than the **Contractor's** own forces pursuant to Article 26.2, the **Contractor** shall be paid, subject to pre-audit by the **Engineering Audit Officer**, the cost of such **Work** computed in accordance with Article 26.2 above, plus an additional allowance of five (5%) percent to cover the **Contractor's** overhead and profit.

26.4 Where a change is ordered, involving both **Extra Work** and omitted or reduced **Contract Work,** the **Contract** price shall be adjusted, subject to pre-audit by the **EAO**, in an amount based on the difference between the cost of such **Extra Work** and of the omitted or reduced **Work**. The cost of such **Extra Work** and of such omitted or reduced **Work** shall be computed based upon applicable **Contract** unit prices. Where there are no applicable **Contract** unit prices, the cost of such **Extra Work** and of such omitted or reduced **Contract Work** shall

be computed in accordance with items 26.2.1 through 26.2.8. If the cost of such **Extra Work** exceeds the costs of such omitted or reduced **Contract Work**, the **Contract** price shall be increased by the difference, plus percentages for overhead and profit as provided in Articles 26.2.9 through 26.2.11. If the cost of the omitted or reduced **Contract Work** exceeds the cost of the **Extra Work**, then the **Contract** price shall be reduced by the difference.

26.5 Where the **Contractor** and the **Commissioner** can agree upon a fixed price for **Extra Work** in accordance with Article 25.3.2 or another method of payment for **Extra Work** in accordance with Article 25.3.4, or for **Extra Work** ordered in connection with omitted work, such method, subject to pre-audit by the **EAO**, may, at the option of the **Commissioner**, be substituted for the cost plus a percentage method provided in Article 26.2; provided, however, that if the **Extra Work** is performed by a **Subcontractor**, the **Contractor** shall not be entitled to receive more than an additional allowance of five (5%) percent for overhead and profit over the cost of such **Subcontractor's Work** as computed in accordance with Article 26.2.

ARTICLE 27. RESOLUTION OF DISPUTES

27.1 All disputes between the **City** and the **Contractor** of the kind delineated in this article that arise under, or by virtue of, this **Contract** shall be finally resolved in accordance with the provisions of this article and the **PPB** Rules. This procedure for resolving all disputes of the kind delineated herein shall be the exclusive means of resolving any such disputes.

27.1.1 This article shall not apply to disputes concerning matters dealt with in other sections of the **PPB** Rules, or to disputes involving patents, copyrights, trademarks, or trade secrets (as interpreted by the courts of New York State) relating to proprietary rights in computer software.

27.1.2 This article shall apply only to disputes about the scope of work delineated by the **Contract**, the interpretation of **Contract** documents, the amount to be paid for **Extra Work** or disputed work performed in connection with the **Contract**, the conformity of the **Contractor's Work** to the **Contract**, and the acceptability and quality of the **Contractor's Work**; such disputes arise when the **Engineer**, **Resident Engineer**, **Engineering Audit Officer**, or other designee of the **Commissioner** makes a determination with which the **Contractor** disagrees.

27.2 All determinations required by this article shall be made in writing clearly stated, with a reasoned explanation for the determination based on the information and evidence presented to the party making the determination. Failure to make such determination within the time required by this article shall be deemed a non-determination without prejudice that will allow application to the next level.

27.3 During such time as any dispute is being presented, heard, and considered pursuant to this article, the **Contract** terms shall remain in force and the **Contractor** shall continue to perform **Work** as directed by the **ACCO** or the **Engineer**. Failure of the **Contractor** to continue **Work** as directed shall constitute a waiver by the **Contractor** of its claim.

27.4 Presentation of Disputes to **Commissioner**.

Notice of Dispute and Agency Response. The **Contractor** shall present its dispute in writing ("Notice of Dispute") to the **Commissioner** within thirty (30) Days of receiving written notice of the determination or action that is the subject of the dispute. This notice requirement shall not be read to replace any other notice requirements contained in the **Contract**. The Notice of Dispute shall include all the facts, evidence, documents, or other basis upon which the **Contractor** relies in support of its position, as well as a detailed computation demonstrating how any amount of money claimed by the **Contractor** in the dispute was arrived at. Within thirty (30) Days after receipt of the detailed written submission comprising the complete Notice of Dispute, the **Engineer**, **Resident Engineer**, **Engineering Audit Officer**, or other designee of the **Commissioner** shall submit to the **Commissioner** all materials he or she deems pertinent to the dispute. Following initial submissions to the **Commissioner**, either

party may demand of the other the production of any document or other material the demanding party believes may be relevant to the dispute. The requested party shall produce all relevant materials that are not otherwise protected by a legal privilege recognized by the courts of New York State. Any question of relevancy shall be determined by the **Commissioner** whose decision shall be final. Willful failure of the **Contractor** to produce any requested material whose relevancy the **Contractor** has not disputed, or whose relevancy has been affirmatively determined, shall constitute a waiver by the **Contractor** of its claim.

27.4.1 **Commissioner** Inquiry. The **Commissioner** shall examine the material and may, in his or her discretion, convene an informal conference with the **Contractor**, the **ACCO**, and the **Engineer**, **Resident Engineer**, **Engineering Audit Officer**, or other designee of the **Commissioner** to resolve the issue by mutual consent prior to reaching a determination. The **Commissioner** may seek such technical or other expertise as he or she shall deem appropriate, including the use of neutral mediators, and require any such additional material from either or both parties as he or she deems fit. The **Commissioner's** ability to render, and the effect of, a decision hereunder shall not be impaired by any negotiations in connection with the disputed presented, whether or not the **Commissioner** participated therein. The **Commissioner** may or, at the request of any party to the dispute, shall compel the participation of any other **Contractor** with a **Contract** related to the **Work** of this **Contract**, and that **Contractor** shall be bound by the decision of the **Commissioner**. Any **Contractor** thus brought into the dispute resolution proceeding shall have the same rights and obligations under this article as the **Contractor** initiating the dispute.

27.4.2 **Commissioner** Determination. Within thirty (30) days after the receipt of all materials and information, or such longer time as may be agreed to by the parties, the **Commissioner** shall make his or her determination and shall deliver or send a copy of such determination to the **Contractor**, the **ACCO**, and **Engineer**, **Resident Engineer**, **Engineering Audit Officer**, or other designee of the **Commissioner**, as applicable, together with a statement concerning how the decision may be appealed.

27.4.3 Finality of **Commissioner** Decision. The **Commissioner's** decision shall be final and binding on all parties, unless presented to the Contract Dispute Resolution Board pursuant to this article. The **City** may not take a petition to the Contract Dispute Resolution Board. However, should the **Contractor** take such a petition, the **City** may seek, and the Contract Dispute Resolution Board may render, a determination less favorable to the **Contractor** and more favorable to the **City** than the decision of the **Commissioner**.

27.5 Presentation of Dispute to the **Comptroller**. Before any dispute may be brought by the **Contractor** to the Contract Dispute Resolution Board, the **Contractor** must first present its claim to the **Comptroller** for his or her review, investigation, and possible adjustment.

27.5.1 Time, Form, and Content of Notice. Within thirty (30) days of its receipt of a decision by the **Commissioner,** the **Contractor** shall submit to the **Comptroller** and to the **Commissioner** a Notice of Claim regarding its dispute with the **Agency**. The Notice of Claim shall consist of (i) a brief Written statement of the substance of the dispute, the amount of money, if any, claimed and the reason(s) the **Contractor** contends the dispute was wrongly decided by the **Commissioner**; (ii) a copy of the written decision of the **Commissioner**; and (iii) a copy of all materials submitted by the **Contractor** to the **Agency**, including the Notice of Dispute. The **Contractor** may not present to the **Comptroller** any material not presented to the **Commissioner**, except at the request of the **Comptroller**.

27.5.2 **Agency** Response. Within thirty (30) days of receipt of the Notice of Claim, the **Agency** shall make available to the **Comptroller** a copy of all material submitted by the **Agency** to the **Commissioner** in connection with the dispute. The **Agency** may not present to the **Comptroller** any material not presented to the **Commissioner** except at the request of the **Comptroller**.

27.5.3 **Comptroller** Investigation. The **Comptroller** may investigate the claim in dispute and, in the course of such investigation, may exercise all powers provided in section 7-201 and 7-203 of the New York City Administrative Code. In addition, the **Comptroller** may demand of either party, and such party shall provide, whatever additional material the **Comptroller** deems pertinent to the claim, including original business records of the **Contractor**. Willful failure of the **Contractor** to produce within fifteen (15) days any material requested by the **Comptroller** shall constitute a waiver by the **Contractor** of its claim. The **Comptroller** may also schedule an informal conference to be attended by the **Contractor, Agency** representatives, and any other personnel desired by the **Comptroller.**

27.5.4 Opportunity of **Comptroller** to Compromise or Adjust Claim. The **Comptroller** shall have forty-five (45) days from his or her receipt of all materials referred to in Article 27.5.3 to investigate the disputed claim. The period for investigation and compromise may be further extended by agreement between the **Contractor** and the **Comptroller,** to a maximum of ninety (90) days from the **Comptroller's** receipt of all materials. The **Contractor** may not present its petition to the Contract Dispute Resolution Board until the period for investigation and compromise delineated in Article 27.5.4 has expired. In compromising or adjusting any claim hereunder, the **Comptroller** may not revise or disregard the terms of the **Contract** between the parties.

27.6 Contract Dispute Resolution Board. There shall be a Contract Dispute Resolution Board composed of:

27.6.1 The chief administrative law judge of the Office of Administrative Trials and Hearings (OATH) or his/her designated OATH administrative law judge, who shall act as chairperson, and may adopt operational procedures and issue such orders consistent with this article as may be necessary in the execution of the Contract Dispute Resolution Board's functions, including, but not limited to, granting extensions of time to present or respond to submissions;

27.6.1.1 The **CCPO** or his/her designee; any designee shall have the requisite background to consider and resolve the merits of the dispute and shall not have participated personally and substantially in the particular matter that is the subject of the dispute or report to anyone who so participated; and

27.6.2 A person with appropriate expertise who is not an employee of the City. This person shall be selected by the presiding administrative law judge from a prequalified panel of individuals, established and administered by OATH with appropriate background to act as decision-makers in a dispute. Such individual may not have a contract or dispute with the City or be an officer or employee of any company or organization that does, or regularly represents persons, companies, or organizations having disputes with the City.

27.7 Petition to the Contract Dispute Resolution Board. In the event the claim has not been settled or adjusted by the **Comptroller** within the period provided in this article, the **Contractor,** within thirty (30) days thereafter, may petition the Contract Dispute Resolution Board to review the **Commissioner's** determination.

27.7.1 Form and Content of Petition by **Contractor**. The **Contractor** shall present its dispute to the Contract Dispute Resolution Board in the form of a petition, which shall include (i) a brief written statement of the substance of the dispute, the amount of money, if any, claimed, and the reason(s) the Contractor contends the dispute was wrongly decided by the **Commissioner**; (ii) a copy of the written Decision of the **Commissioner,** (iii) copies of all materials submitted by the **Contractor** to the Agency; (iv) a copy of the written decision of the **Comptroller**, if any, and (v) copies of all correspondence with, or written material submitted by the **Contractor**, to the **Comptroller**. The **Contractor** shall concurrently submit four (4) complete sets of the Petition: one set to the Corporation Counsel (Attn: Commercial and Real Estate Litigation Division) and three (3) sets to the Contract

Dispute Resolution Board at OATH's offices with proof of service on the Corporation Counsel. In addition, the **Contractor** shall submit a copy of the written statement of the substance of the dispute, cited in (i) above, to both the **Commissioner** and the **Comptroller**.

27.7.2 **Agency** Response. Within thirty (30) Days of its receipt of the petition by the Corporation Counsel, the **Agency** shall respond to the brief written statement of the **Contractor** and make available to the Contract Dispute Resolution Board all material it submitted to the **Commissioner** and **Comptroller**. Three (3) complete copies of the **Agency** response shall be provided to the Contract Dispute Resolution Board and one to the **Contractor**. Extensions of time for submittal of the **Agency** response shall be given as necessary upon a showing of good cause or, upon consent of the parties, for an initial period of up to thirty (30) Days.

27.7.3 Further Proceedings. The Contract Dispute Resolution Board shall permit the **Contractor** to present its case by submission of memoranda, briefs, and oral argument. The Contract Dispute Resolution Board shall also permit the **Agency** to present its case in response to the **Contractor** by submission of memoranda, briefs, and oral argument. If requested by the Corporation Counsel, the **Comptroller** shall provide reasonable assistance in the preparation of the **Agency's** case. Neither the **Contractor** nor the **Agency** may support its case with any documentation or other material that was not considered by the **Comptroller**, unless requested by the Contract Dispute Resolution Board. The Contract Dispute Resolution Board, in its discretion, may seek such technical or other expert advice as it shall deem appropriate and may seek, on its own or upon application of a party, any such additional material from any party as it deems fit. The Contract Dispute Resolution Board, in its discretion, may combine more than one dispute between the parties for concurrent resolution.

27.7.4 Contract Dispute Resolution Board Determination. Within forty-five (45) Days of the conclusion of all written submissions and oral arguments, the Contract Dispute Resolution Board shall render a written decision resolving the dispute. In an unusually complex case, the Contract Dispute Resolution Board may render its decision in a longer period, not to exceed ninety (90) Days, and shall so advise the parties at the commencement of this period. The Contract Dispute Resolution Board's decision must be consistent with the terms of the **Contract**. Decisions of the Contract Dispute Resolution Board shall only resolve matters before the Contract Dispute Resolution Board and shall not have precedential effect with respect to matters not before the Contract Dispute Resolution Board.

27.7.5 Notification of Contract Dispute Resolution Board Decision. The Contract Dispute Resolution Board shall send a copy of its decision to the **Contractor**, the **ACCO**, the Engineer, the **Comptroller**, the Corporation Counsel, the Director of the Office of Construction, and the **PPB**. A decision in favor of the **Contractor** shall be subject to the prompt payment provisions of the **PPB** Rules. The Required Payment Date shall be thirty (30) Days after the date the parties are formally notified of the Contract Dispute Resolution Board's decision.

27.7.6 Finality of Contract Dispute Resolution Board Decision. The Contract Dispute Resolution Board's decision shall be final and binding on all parties. Any party may seek review of the Contract Dispute Resolution Board's decision solely in the form of a challenge, filed within four (4) months of the date of the Contract Dispute Resolution Board's decision, in a court of competent jurisdiction of the State of New York, County of New York pursuant to Article 78 of the Civil Practice Laws and Rules. Such review by the court shall be limited to the question of whether or not the Contract Dispute Resolution Board's decision was made in violation of lawful procedure, was affected by an error of **Law**, or was arbitrary and capricious or an abuse of discretion. No evidence or information shall be introduced or relied upon in such proceeding that was not presented to the Contract Dispute Resolution Board in accordance with this article.

27.8 Any termination, cancellation, or alleged breach of the **Contract** prior to or during the pendency of any proceedings pursuant to this article shall not affect or impair the ability of the **Commissioner** or Contract Dispute Resolution Board to make a binding and final decision pursuant to this article.

ARTICLE 28. RECORD KEEPING FOR EXTRA OR DISPUTED WORK

28.1 While the **Contractor** or any of its **Subcontractors** is performing **Extra Work** on a Time and Material Basis ordered by the **Commissioner** under Article 25, or is performing disputed **Work**, or complying with a determination or order under protest in accordance with Articles 27 and 30, in each such case the **Contractor** shall furnish the **Resident Engineer** daily with three (3) copies of written statements signed by the **Contractor's** representative at the **Site** showing:

28.1.1 The name and number of each Worker employed on such **Work** or engaged in complying with such determination or order, the number of hours employed, and the character of the **Work** each is doing; and

28.1.2 The nature and quantity of any materials, plant and equipment furnished or used in connection with the performance of such **Work** or compliance with such determination or order, and from whom purchased or rented.

28.2 A copy of such statement will be countersigned by the **Resident Engineer**, noting thereon any items not agreed to or questioned, and will be returned to the **Contractor** within two (2) **Days** after submission.

28.3 The **Contractor** and its **Subcontractors**, when required by the **Commissioner**, or the **Comptroller**, shall also produce for inspection, at the office of the **Contractor** or **Subcontractor**, any and all of its books, bid documents, financial statements, vouchers, records, daily job diaries and reports, and cancelled checks, and any other documents relating to showing the nature and quantity of the labor, materials, plant and equipment actually used in the performance of such **Work**, or in complying with such determination or order, and the amounts expended therefor, and shall permit the **Commissioner** and the **Comptroller** to make such extracts therefrom, or copies thereof, as they or either of them may desire.

28.4 In connection with the examination provided for herein, the **Commissioner**, upon demand therefor, will produce for inspection by the **Contractor** such records as the **Agency** may have with respect to such **Extra** or disputed **Work** performed under protest pursuant to order of the **Commissioner**, except those records and reports which may have been prepared for the purpose of determining the accuracy and validity of the **Contractor's** claim.

28.5 Failure to comply strictly with these requirements shall constitute a waiver of any claim for extra compensation or damages on account of the performance of such **Work** or compliance with such determination or order.

ARTICLE 29. OMITTED WORK

29.1 If any **Contract Work** in a lump sum **Contract**, or if any part of a lump sum item in a unit price, lump sum, or percentage-bid **Contract** is omitted by the **Commissioner** pursuant to Article 33, the **Contract** price, subject to audit by the EAO, shall be reduced by a pro rata portion of the lump sum bid amount based upon the percent of **Work** omitted subject to Article 29.4. For the purpose of determining the pro rata portion of the lump sum bid amount, the bid breakdown submitted in accordance with Article 41 shall be considered, but shall not be the determining factor.

29.2 If the whole of a lump sum item or units of any other item is so omitted by the **Commissioner** in a unit price, lump sum, or percentage-bid **Contract**, then no payment will be made therefor except as provided in Article 29.4.

29.3 For units that have been ordered but are only partially completed, the unit price shall be reduced by a pro rata portion of the unit price bid based upon the percentage of **Work** omitted subject to Article 29.4.

29.4 In the event the **Contractor**, with respect to any omitted **Work**, has purchased any non-cancelable material and/or equipment that is not capable of use except in the performance of this **Contract** and has been specifically fabricated for the sole purpose of this **Contract**, but not yet incorporated into the **Work**, the **Contractor** shall be paid for such material and/or equipment in accordance with Article 64.2.1(b); provided, however, such payment is contingent upon the **Contractor's** delivery of such material and/or equipment in acceptable condition to a location designated by the **City**.

29.5 The **Contractor** agrees to make no claim for damages or for loss of overhead and profit with regard to any omitted **Work**.

ARTICLE 30. NOTICE AND DOCUMENTATION OF COSTS AND DAMAGES; PRODUCTION OF FINANCIAL RECORDS

30.1 If the **Contractor** shall claim to be sustaining damages by reason of any act or omission of the **City** or its agents, it shall submit to the **Commissioner** within forty-five (45) **Days** from the time such damages are first incurred, and every thirty (30) **Days** thereafter for as long as such damages are incurred, verified statements of the details and the amounts of such damages, together with documentary evidence of such damages. The **Contractor** may submit any of the above statements within such additional time as may be granted by the **Commissioner** in writing upon written request therefor. Failure of the **Commissioner** to respond in writing to a written request for additional time within thirty (30) **Days** shall be deemed a denial of the request. On failure of the **Contractor** to fully comply with the foregoing provisions, such claims shall be deemed waived and no right to recover on such claims shall exist. Damages that the **Contractor** may claim in any action or dispute resolution procedure arising under or by reason of this **Contract** shall not be different from or in excess of the statements and documentation made pursuant to this article.

30.2 In addition to the foregoing statements, the **Contractor** shall, upon notice from the **Commissioner**, produce for examination at the **Contractor's** office, by the **Engineer**, **Architect** or **Project Manager**, all of its books of account, bills, invoices, payrolls, subcontracts, time books, daily reports, bank deposit books, bank statements, check books, cancelled checks, showing all of its acts and transactions in connection with or relating to or arising by reason of this **Contract**, and submit itself and persons in its employment, for examination under oath by any person designated by the **Commissioner** or **Comptroller** to investigate claims made or disputes against the **City** under this **Contract**. At such examination, a duly authorized representative of the **Contractor** may be present.

30.3 In addition to the statements required under Article 28 and this Article, the **Contractor** and/or its **Subcontractor** shall, within thirty (30) **Days** upon notice from the **Commissioner** or **Comptroller**, produce for examination at the **Contractor's** and/or **Subcontractor's** office, by a representative of either the **Commissioner** or **Comptroller**, all of its books of account, bid documents, financial statements, accountant workpapers, bills, invoices, payrolls, subcontracts, time books, daily reports, bank deposit books, bank statements, check books, cancelled checks, showing all of its acts and transactions in connection with or relating to or arising by reason of this **Contract**. Further, the **Contractor** and/or its **Subcontractor** shall submit any person in its employment, for examination under oath by any person designated by the **Commissioner** or **Comptroller** to investigate claims made or disputes against the **City** under this **Contract**. At such examination, a duly authorized representative of the **Contractor** may be present.

30.4 Unless the information and examination required under Article 30.3 is provided by the **Contractor** and/or its **Subcontractor** upon thirty (30) **Days** notice from the **Commissioner** or **Comptroller**, or upon the **Commissioner's** or **Comptroller's** written authorization to extend the time to comply, the **City** shall be released

from all claims arising under, relating to or by reason of this **Contract**, except for sums certified by the **Commissioner** or **Comptroller** to be due under the provisions of this **Contract**. It is further stipulated and agreed that no person has the power to waive any of the foregoing provisions and that in any action or dispute resolution procedure against the **City** to recover any sum in excess of the sums certified by the **Commissioner** or **Comptroller** to be due under or by reason of this **Contract**, the **Contractor** must allege in its complaint and prove, at trial or during such dispute resolution procedure, compliance with the provisions of this Article.

30.5 In addition, after the commencement of any action or dispute resolution procedure by the **Contractor** arising under or by reason of this **Contract**, the **City** shall have the right to require the **Contractor** to produce for examination under oath, up until the trial of the action or hearing before the Contract Dispute Resolution Board, the books and documents described in Article 30.3 and submit itself and all persons in its employ for examination under oath. If this Article is not complied with as required, then the **Contractor** hereby consents to the dismissal of the action or dispute resolution procedure.

CHAPTER VII
POWERS OF THE RESIDENT ENGINEER, THE ENGINEER OR ARCHITECT AND THE COMMISSIONER

ARTICLE 31. THE RESIDENT ENGINEER

31.1 The **Resident Engineer** shall have the power to inspect, supervise and control the performance of the **Work**, subject to review by the **Commissioner**. The **Resident Engineer** shall not, however, have the power to issue an **Extra Work** order, except as specifically designated in writing by the **Commissioner**.

ARTICLE 32. THE ENGINEER OR ARCHITECT OR PROJECT MANAGER

32.1 The **Engineer** or **Architect** or **Project Manager**, in addition to those matters elsewhere herein delegated to the **Engineer** and expressly made subject to his/her determination, direction or approval, shall have the power, subject to review by the **Commissioner**:

32.1.1 To determine the amount, quality, and location of the **Work** to be paid for hereunder; and

32.1.2 To determine all questions in relation to the **Work**, to interpret the **Contract Drawings**, **Specifications**, and **Addenda**, and to resolve all patent inconsistencies or ambiguities therein; and

32.1.3 To determine how the **Work** of this **Contract** shall be coordinated with **Work** of other **Contractors** engaged simultaneously on this **Project**, including the power to suspend any part of the **Work**, but not the whole thereof; and

32.1.4 To make minor changes in the **Work** as he/she deems necessary, provided such changes do not result in a net change in the cost to the **City** or to the **Contractor** of the **Work** to be done under the **Contract**; and

32.1.5 To amplify the **Contract Drawings**, add explanatory information and furnish additional **Specifications** and drawings, consistent with this **Contract**.

32.2 The foregoing enumeration shall not imply any limitation upon the power of the **Engineer** or **Architect** or **Project Manager**, for it is the intent of this **Contract** that all of the **Work** shall generally be subject to his/her determination, direction and approval, except where the determination, direction or approval of someone other than the **Engineer** or **Architect** or **Project Manager** is expressly called for herein.

32.3 The **Engineer** or **Architect** or **Project Manager** shall not, however, have the power to issue an **Extra Work** order, except as specifically designated in writing by the **Commissioner.**

ARTICLE 33. THE COMMISSIONER

33.1 The **Commissioner,** in addition to those matters elsewhere herein expressly made subject to his/her determination, direction or approval, shall have the power:

33.1.1 To review and make determinations on any and all questions in relation to this **Contract** and its performance; and

33.1.2 To modify or change this **Contract** so as to require the performance of **Extra Work** (subject, however, to the limitations specified in Article 25) or the omission of **Contract Work**; and

33.1.3 To suspend the whole or any part of the **Work** whenever in his/her judgment such suspension is required:

33.1.3(a) In the interest of the **City** generally; or

33.1.3(b) To coordinate the **Work** of the various **Contractors** engaged on this **Project** to the provisions of Article 12; or

33.1.3(c) To expedite the completion of the entire **Project** even though the completion of this particular **Contract** may thereby be delayed.

ARTICLE 34. NO ESTOPPEL

34.1 Neither the **City** nor any **Agency**, officer, agent or employee thereof, shall be bound, precluded or estopped by any determination, decision, approval, order, letter, payment or certificate made or given under or in connection with this **Contract** by the **City**, the **Commissioner**, the **Resident Engineer**, or any other officer, agent or employee of the **City**, either before or after the final completion and acceptance of the **Work** and payment therefor:

34.1.1 From showing the true and correct classification, amount, quality or character of the **Work** actually done; or that any such determination, decision, order, letter, payment or certificate was untrue, incorrect or improperly made in any particular, or that the **Work**, or any part thereof, does not in fact conform to the requirements of this **Contract**; and

34.1.2 From demanding and recovering from the **Contractor** any overpayment made to it, or such damages as the **City** may sustain by reason of the **Contractor's** failure to perform each and every part of its **Contract.**

CHAPTER VIII
LABOR PROVISIONS

ARTICLE 35. EMPLOYEES

35.1 The **Contractor** and its **Subcontractors** shall not employ on the **Work**:

35.1.1 Anyone who is not competent, faithful and skilled in the **Work** for which he/she shall be employed; and whenever the **Commissioner** shall inform the **Contractor**, in writing, that any employee is, in his/her opinion, incompetent, unfaithful or disobedient, that

employee shall be discharged from the **Work** forthwith, and shall not again be employed upon it; or

35.1.2 Any labor, materials or means whose employment, or utilization during the course of this **Contract**, may tend to or in any way cause or result in strikes, work stoppages, delays, suspension of **Work** or similar troubles by workers employed by the **Contractor** or its **Subcontractors**, or by any of the trades working in or about the buildings and premises where **Work** is being performed under this **Contract**, or by **Other Contractors** or their **Subcontractors** pursuant to other Contracts, or on any other building or premises owned or operated by the **City**, its **Agencies**, departments, boards or authorities. Any violation by the **Contractor** of this requirement may, upon certification of the **Commissioner**, be considered as proper and sufficient cause for declaring the **Contractor** to be in default, and for the **City** to take action against it as set forth in Chapter X of this **Contract**, or such other article of this **Contract** as the **Commissioner** may deem proper; or

35.1.3 In accordance with Section 220.3-e of the Labor Law of the State of New York (hereinafter "Labor **Law**"), the **Contractor** and its **Subcontractors** shall not employ on the **Work** any apprentice, unless he/she is a registered individual, under a bona fide program registered with the New York State Department of Labor. The allowable ratio of apprentices to journey-level workers in any craft classification shall not be greater than the ratio permitted to the **Contractor** as to its **Work** force on any job under the registered program. Any employee listed on a payroll at an apprentice wage rate, who is not registered as above, shall be paid the wage rate determined by the **Comptroller** of the **City** for the classification of **Work** actually performed. The **Contractor** or **Subcontractor** will be required to furnish written evidence of the registration of its program and apprentices as well as all the appropriate ratios and wage rates, for the area of the construction prior to using any apprentices on the **Contract Work**.

35.2 If the total cost of the **Work** under this **Contract** is at least two hundred fifty thousand dollars, all laborers, workers, and mechanics employed in the performance of the **Contract** on the public work site, either by the **Contractor**, **Subcontractor** or other person doing or contracting to do the whole or a part of the work contemplated by the contract, shall be certified prior to performing any **Work** as having successfully completed a course in construction safety and health approved by the United States department of labor's occupational safety and health administration that is at least ten hours in duration.

ARTICLE 36. NO DISCRIMINATION

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

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

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

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

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

36.1.5 The aforesaid provisions of this article covering every **Contract** for or on behalf of the State or a municipality for the manufacture, sale or distribution of materials, equipment or supplies shall be limited to operations performed within the territorial limits of the State of New York.

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

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

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

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

36.2.4 Any person, or the employee, manager or owner of or officer of such firm or corporation who shall violate any of the provisions of this section shall, upon conviction thereof, be punished by a fine of not more than one hundred ($100.00) dollars or by imprisonment for not more than thirty (30) **Days**, or both.

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

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

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

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

36.3.4 Will send to each labor organization or representative of workers with which it has a Collective Bargaining Agreement or other Contract or memorandum of understanding, written

notification of its equal employment opportunity commitments under E.O. 50 and the Rules and Regulations promulgated thereunder; and

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

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

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

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

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

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

Failure to comply with E.O. 50 and the rules and regulations promulgated thereunder, in one or more instances, may result in the **Agency** declaring the **Contractor** to be non-responsible.

The **Contractor** further agrees that it will refrain from entering into any **Contract** or **Contract** modification subject to E.O. 50 and the rules and regulations promulgated thereunder with a **Subcontractor** who is not in compliance with the requirements of E.O. 50 and the rules and regulations promulgated thereunder.

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

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

36.5.2 every agreement between the **Contractor** and its **Subcontractors** in excess of $50,000 shall include a provision that the **Subcontractor** shall not engage in any unlawful discriminatory practice as defined in title viii of the Administrative Code (Section 8-101 et. seq.); and

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

ARTICLE 37. LABOR LAW REQUIREMENTS

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

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

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

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

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

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

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

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

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

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

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

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

37.4.1(b) Less than the stipulated minimum hourly wage scale as provided in Labor Law Section 220-d, as amended.

37.4.2 For any breach or violation of either Working Conditions (Article 37.3) and Minimum Wages (Article 37.2.6), the party responsible therefore shall be liable to the **City** for liquidated damages, which may be withheld from any amounts due on any **Contracts** with the **City** of such party responsible, or may be recovered in suits brought by the Corporation Counsel in the name of the **City**, in addition to damage for any other breach of this **Contract**, a sum equal to the amount of any underpayment of wages due to any employee engaged in the performance of this **Contract**. In addition, the **Commissioner** shall have the right to cancel **Contracts** and enter into other **Contracts** for the completion of the original **Contract**, with or without public letting, and the original **Contractor** shall be liable for any additional cost. All sums withheld or recovered as deductions, rebates, refunds, or underpayment of wages hereunder, shall be held in a special deposit account and shall be paid without interest, on order of the **Comptroller**, directly to the employees who have been paid less than minimum rates of pay as set forth herein and on whose account such sums were withheld or recovered, provided that no claims by employees for such payments shall be entertained unless made within two (2) years from the date of actual notice to the **Contractor** of the withholding or recovery of such sums by the **City**.

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

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

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

37.4.4(b) Labor **Law** Section 220-b, as amended, provides that when two (2) final determinations have been rendered against a **Contractor** or **Subcontractor** within any consecutive six (6) year period determining that such **Contractor** or **Subcontractor** has willfully failed to pay the prevailing rate of wages or to provide supplements in accordance with the Labor **Law** and this article, whether such failures were concurrent or consecutive and whether or not such final determinations concerning separate public work projects are rendered

simultaneously, such **Contractor** or **Subcontractor** shall be ineligible to submit a bid on or be awarded any public work contract with the **City** for a period of five (5) years from the second final determination. If the final determination involves the falsification of payroll records or the kickback of wages or supplements, the **Contractor** or **Subcontractor** shall be ineligible to submit a bid on or be awarded any public work contract with the **City** for a period of five (5) years from the first final determination.

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

37.5 The **Contractor** and its **Subcontractors** shall within ten (10) **Days** after mailing of a Notice of Award or written order, post in prominent and conspicuous places in each and every plant, factory, building, and structure where employees of the **Contractor** and its **Subcontractors** engaged in the performance of this **Contract** are employed, notices furnished by the **City**, in relation to prevailing wages and supplements, minimum wages and other stipulations contained in Sections 220 and 220-h of the Labor **Law**, and the **Contractor** and its **Subcontractors** shall continue to keep such notices posted in such prominent and conspicuous places until **Final Acceptance** of the supplies, materials, equipment, or **Work**, labor, or services required to be furnished or rendered under this **Contract**.

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

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

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

37.6.3 Individual Employee Information Notices: Distribute a notice, to each worker, laborer or mechanic employed under this **Contract**, in a form provided by the **Agency**, that this **Project** is a public work project on which each worker, laborer or mechanic is entitled to receive the prevailing rate of wages and supplements for the occupation at which he or she is working. If the total cost of the **Work** under this **Contract** is at least two hundred fifty thousand dollars, such notice shall also include a statement that, that each worker, laborer or mechanic be certified prior to performing any

Work as having successfully completed a course in construction safety and health approved by the United States department of labor's occupational safety and health administration that is at least ten hours in duration. Such notice shall be distributed to each worker before he or she starts performing any **Work** of this **Contract** and with the first paycheck after July first of each year. Worker, laborer or mechanic includes employees of the **Contractor** and all **Subcontractors** and all employees of suppliers entering the **Site**. At the time of distribution, the **Contractor** shall have each worker, laborer or mechanic sign a statement, in a form provided by the **Agency**, certifying that the worker has received the notice required by this article, which signed statement shall be maintained with the payroll records required by this **Contract**; and

37.6.3.1 The Contractor and each Subcontractor shall notify each worker, laborer or mechanic employed under this **Contract** in writing of the prevailing rate of wages for their particular job classification. Such notification shall be given to every worker, laborer and mechanic on their first pay stub and with every pay stub thereafter; and

37.6.4 **Site** Laminated Identification Badges: Provide laminated identification badges which indicate the worker's, laborer's or mechanic's name, trade, employer's name and employment starting date (month/day/year). Further, require as a condition of employment on the **Site**, that each and every worker, laborer or mechanic wear the laminated identification badge at all times and that it may be seen by any representative of the **City**; and

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

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

37.6.7 If this **Contract** is for an amount greater than $1,000,000, checks issued by the **Contractor** to covered employees shall be generated by a payroll service or automated payroll system (an in-house system may be used if approved by the **Agency**). For any subcontract for an amount greater than $750,000, checks issued by a **Subcontractor** to covered employees shall be generated by a payroll service or automated payroll system (an in-house system may be used if approved by the **Agency**); and

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

37.7 The **Contractor** and its **Subcontractors** shall keep such employment and payroll records as are required by Section 220 of the Labor **Law**.

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

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

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

ARTICLE 38. PAYROLL REPORTS

38.1 The **Contractor** shall maintain on the **Site** the original payrolls or transcripts thereof which the **Contractor** and its **Subcontractor(s)** are required to maintain pursuant to Labor **Law** Section 220. The **Contractor** and **Subcontractor(s)** shall submit original payrolls or transcripts, subscribed and affirmed by it as true, with each and every payment requisition. The **Contractor and Subcontractor(s)** shall produce within five (5) **Days** on the **Site** of the **Work** and upon a written order of the **Engineer**, the **Commissioner**, the **ACCO**, the **Agency EAO**, or the **Comptroller**, such original payrolls or transcripts thereof, subscribed and affirmed by it as true, and the statements signed by each worker pursuant to this Chapter VIII. In addition, the **Contractor** and **Subcontractor(s)** shall furnish to the **Engineer** upon written demand any other information to satisfy the **Engineer** that this Chapter VIII and the Labor **Law**, as to the hours of employment and rates of wages, are being observed. The **Contractor** shall maintain the payrolls or transcripts thereof for six (6) years from the date of completion of the **Work** on this **Contract**.

38.2 When directed by the **Engineer**, the **Contractor** or **Subcontractor** shall provide the **Engineer** with an attendance sheet for each **Day** on which **Work** is performed on the **Site**. Such attendance sheet shall be in a form acceptable to the **Agency** and shall provide information for employees of the **Contractor** and **Subcontractor(s)**.

ARTICLE 39. DUST HAZARDS

39.1 Should a harmful dust hazard be created in performing the **Work** of this **Contract**, for the elimination of which appliances or methods have been approved by the Board of Standards and Appeals of the City of New York, such appliances and methods shall be installed, maintained, and effectively operated during the continuance of such harmful dust hazard. Failure to comply with this provision after notice shall make this **Contract** void.

CHAPTER IX
PARTIAL AND FINAL PAYMENTS

ARTICLE 40. CONTRACT PRICE

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

ARTICLE 41. BID BREAKDOWN ON LUMP SUM

41.1 Within fifteen (15) **Days** after the commencement date specified in the Notice to Proceed, unless otherwise directed by the **Resident Engineer**, the **Contractor** shall submit to the **Resident Engineer** a breakdown of its bid price, or of lump sums bid for items of the **Contract**, showing the various operations to be performed

under the **Contract**, as directed in the progress schedule required under Article 9, and the value of each of such operations, the total of such items to equal the lump sum price bid. Said breakdown must be approved in writing by the **Resident Engineer**.

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

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

ARTICLE 42. PARTIAL PAYMENTS

42.1 From time to time as the **Work** progresses satisfactorily, but not more often than once a month, the **Contractor** may submit to the **Engineer** a requisition for a partial payment in the prescribed form, which shall contain an estimate of the quantity and the fair value of the **Work** done during the payment period.

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

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

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

ARTICLE 43. PROMPT PAYMENT

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

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

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

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

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

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

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

ARTICLE 44. SUBSTANTIAL COMPLETION PAYMENT

44.1 When the **Work** in the opinion of the **Commissioner**, has been substantially but not entirely completed, he/she shall issue a certificate of **Substantial Completion**.

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

44.2.1 A Final Verified Statement of any and all alleged claims against the **City** and any pending dispute resolution procedures in accord with the **PPB** Rules and this **Contract**, in any way connected with or arising out of this **Contract** (including those as to which details may have been furnished pursuant to Articles 11, 27, 28, and 30) setting forth with respect to each such claim the total amount thereof, the various items of labor and materials included therein, and the alleged value of each item; and if the alleged claim be one for delay, the alleged cause of each such delay, the period or periods of time, giving the dates when the **Contractor** claims the performance of the **Work** or a particular part thereof was delayed, and an itemized statement and breakdown of the amount claimed for each such delay.

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

44.2.2 A **Final Approved Punch List**.

44.2.3 Where required, a request for a substantial or final extension of time.

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

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

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

ARTICLE 45. FINAL PAYMENT

45.1 After completion and **Final Acceptance** of the **Work**, the **Contractor** shall submit all required certificates and documents, together with a requisition for the balance claimed to be due under the **Contract**, less the amount authorized to be retained for maintenance under Article 24. A verified statement similar to that required in connection with applications for partial payments shall also be submitted to the **Commissioner**.

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

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

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

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

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

ARTICLE 46. ACCEPTANCE OF FINAL PAYMENT

46.1 The acceptance by the **Contractor**, or by anyone claiming by or through it, of the final payment, whether such payment be made pursuant to any judgment of any Court, or otherwise, shall constitute and operate as a release to the **City** from any and all claims of and liability to the **Contractor** for anything heretofore done or furnished for the **Contractor** relating to or arising out of this **Contract** and the **Work** done hereunder, and for any prior act, neglect or default on the part of the **City** or any of its officers, agents or employees, excepting only a claim against the **City** for the amounts deducted or retained in accordance with the terms and provisions of this **Contract** or by **Law**, and excepting any claims, not otherwise waived, or any pending dispute resolution procedures which are contained in the verified statement filed with the **Contractor's** substantial and final requisitions pursuant to Articles 44 and 45.

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

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

46.4 The **Contractor**, however, shall not be barred from commencing an action for breach of **Contract** under this provision to the extent permitted by **Law** and by the terms of the **Contract** provided that a detailed and verified statement of claim is served upon the contracting **Agency** and **Comptroller** not later than forty (40) **Days** after the mailing of such final payment. The statement shall specify the items upon which the claim will be based and any such claim shall be limited to such items.

ARTICLE 47. APPROVAL BY PUBLIC DESIGN COMMISSION

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

CHAPTER X
CONTRACTOR'S DEFAULT

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

ARTICLE 49. EXERCISE OF THE RIGHT TO DECLARE DEFAULT

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

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

ARTICLE 50. QUITTING THE SITE

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

ARTICLE 51. COMPLETION OF THE WORK

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

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

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

ARTICLE 52. PARTIAL DEFAULT

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

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

ARTICLE 53. PERFORMANCE OF UNCOMPLETED WORK

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

ARTICLE 54. OTHER REMEDIES

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

54.2 The previous provisions of this Chapter X shall be in addition to any and all other legal or equitable remedies permissible in the premises.

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

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

CHAPTER XI
MISCELLANEOUS PROVISIONS

ARTICLE 55. CONTRACTOR'S WARRANTIES

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

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

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

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

ARTICLE 56. CLAIMS AND ACTIONS THEREON

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

56.2 Nor shall any lawsuit be instituted or maintained on any such claims unless such lawsuit is commenced within six (6) months after the date the **Commissioner** issues a Certificate of **Substantial Completion** pursuant to Article 44; except that:

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

56.2.2 Any claims for monies deducted, retained or withheld under the provisions of this **Contract** shall be asserted within six (6) months after the date when such monies becomes due and payable hereunder; and

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

ARTICLE 57. INFRINGEMENT

57.1 The **Contractor** shall be solely responsible for and shall indemnify the **City** against any and all claims and judgments for damages for any infringement of copyright and patents or use of patented articles, tools, materials, equipment, appliances or processes in the performance or completion of the **Work**, including all costs and expenses which the **City** shall or may incur or be obligated to pay by reason thereof.

ARTICLE 58. NO CLAIM AGAINST OFFICERS, AGENTS OR EMPLOYEES

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

ARTICLE 59. SERVICES OF NOTICES

59.1 The **Contractor** hereby designates the business address specified in its bid, as the place where all notices, directions or other communications to the **Contractor** may be delivered, or to which they may be mailed. Actual delivery of any such notice, direction or communication to the aforesaid place, or depositing it in a postpaid wrapper addressed thereto in any post office box (P.O. Box) regularly maintained by the United States Postal Service, shall be conclusively deemed to be sufficient service thereof upon the **Contractor** as the date of such delivery or deposit.

59.2 Such address may be changed at any time by an instrument in writing, executed and acknowledged by the **Contractor**, and delivered to the **Commissioner**.

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

ARTICLE 60. UNLAWFUL PROVISIONS DEEMED STRICKEN FROM CONTRACT

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

ARTICLE 61. ALL LEGAL PROVISIONS DEEMED INCLUDED

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

ARTICLE 62. TAX EXEMPTION

62.1 The **City** is exempt from payment of Federal, State, local taxes and Sales and Compensation Use Taxes of the State of New York and of cities and counties on all materials and supplies sold to the **City** pursuant to the provisions of this **Contract**. These taxes are not to be included in bids. However, this exemption does not apply to tools, machinery, equipment or other property leased by or to the **Contractor** or a **Subcontractor**, or to supplies and materials which even though they are consumed, are not incorporated into the completed **Work** (consumable supplies), and the **Contractor** and its **Subcontractors** shall be responsible for and pay any and all applicable taxes, including Sales and Compensation Use Taxes, on such leased tools, machinery, equipment or other property and upon all such unincorporated supplies and materials.

62.2 The **Contractor** agrees to sell and the **City** agrees to purchase all supplies and materials, other than consumable supplies, required, necessary or proper for or incidental to the construction of the **Project** covered by this **Contract**. The sum paid under this **Contract** for such supplies and materials shall be in full payment and consideration for the sale of such supplies and materials herein.

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

62.3 The purchase by the **Contractor** of the supplies and materials sold hereunder shall be a purchase or procurement for resale and therefore not subject to the New York State or **City** Sales or Compensation Use Taxes or any such taxes of cities or counties. The sale of such supplies and materials by the **Contractor** to the **City** is exempt from the aforesaid sales or compensating use taxes. With respect to such supplies and materials, the

Contractor, at the request of the **City**, shall furnish to the **City** such Bills of Sale and other instruments as may be required by the **City**, properly executed, acknowledged and delivered assuring to the **City** title to such supplies and materials, free of liens and/or encumbrances, and the **Contractor** shall mark or otherwise identify all such materials as the property of the **City**.

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

62.5 The purchase by **Subcontractors** of supplies and materials to be sold hereunder shall also be a purchase or procurement for resale to the **Contractor** (either directly or through other **Subcontractors**) and therefore not subject to the aforesaid Sales or Compensation Use Taxes, provided that the subcontract agreements provide for the resale of such supplies and materials prior to and separate and apart from the incorporation of such supplies and materials into the permanent structure and/or construction and that such subcontract agreements are in a form similar to this **Contract** with respect to the separation of the sale of materials from the **Work** and labor, services, consumable supplies and any other matters to be provided, and provided further that the subcontract agreements provide separate prices for materials and all other services and matters. Such separation shall actually be followed in practice, including the separation of payments for supplies and materials from the payments for other **Work** and labor and other things to be provided.

62.6 The **Contractor** and its **Subcontractors** and Materialmen shall obtain any and all necessary **Contractor** Exempt Purchase Certificates or Resale Certificates from the appropriate governmental **Agency** or **Agencies**, and furnish a **Contractor** Exempt Purchase Certificate or Resale Certificate to all persons, firms or corporations from which they purchase supplies and materials for the performance of the **Work** covered by this **Contract**.

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

ARTICLE 63. INVESTIGATION(S) CLAUSE

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

63.2 If any person who has been advised that his/her statement, and any information from such statement, will not be used against him/her in any subsequent criminal proceeding refuses to testify before a grand jury or other governmental **Agency** or authority empowered directly or by designation to compel the attendance of witnesses and to examine witnesses under oath concerning the award of or performance under any transaction, agreement, lease, permit, **Contract**, or license entered into with the **City**, the State, or any political subdivision or

public authority thereof, or the Port Authority of New York and New Jersey, or any local development corporation within the **City**, or any public benefit corporation organized under the **Laws** of the State of New York, or;

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

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

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

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

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

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

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

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

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

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

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

63.8 Definitions:

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

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

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

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

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

ARTICLE 64. TERMINATION BY THE CITY

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

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

64.1.2 Take such action as may be necessary for the protection and preservation of the **City's** materials and property;

64.1.3 Cancel all cancelable orders for material and equipment;

64.1.4 Assign to the **City** and deliver to the **Site** or another location designated by the **Commissioner**, any non-cancelable orders for material and equipment that is not capable of use except in the performance of this **Contract** and has been specifically fabricated for the sole purpose of this **Contract** and not incorporated in the **Work**;

64.1.5 Take no action which will increase the amounts payable by the **City** under this **Contract**.

64.2 In the event of termination by the **City** pursuant to this article, payment to the **Contractor** shall be in accordance with Articles 64.2.1, 64.2.2 or 64.2.3, to the extent that each respective article applies.

64.2.1 Lump Sum Contracts or Items: On all lump sum **Contracts**, or on lump sum items in a **Contract**, the **City** will pay the **Contractor** the sum of Articles 64.2.1(a) and 64.2.1(b), less all payments previously made pursuant to this **Contract**. On lump sum **Contracts** only, the **City** will also pay the **Contractor** an additional sum as provided in 64.2.1(c).

64.2.1(a) For **Work** completed prior to the notice of termination, the **Contractor** shall be paid a pro rata portion of the lump sum bid amount, plus approved change orders, based upon the percent completion of the **Work**, as determined by the **Commissioner**. For the purpose of determining the pro rata portion of the lump sum bid amount to which the **Contractor** is entitled, the Bid Breakdown submitted in accordance with Article 41 shall be considered, but shall not be dispositive. The **Commissioner's** determination hereunder shall be final, binding and conclusive.

64.2.1(b) For non-cancelable material and equipment, less salvage value, that is not capable of use except in the performance of this **Contract** and has been specifically fabricated for the sole purpose of this **Contract**, but not yet incorporated in the **Work**, the **Contractor** shall be paid the lesser of:

64.2.1(b)(i) The direct cost, as defined in Article 64.2.4; or

64.2.1(b)(ii) The fair and reasonable value, whichever is less, of such material and equipment, plus necessary and reasonable delivery costs.

64.2.1(b)(iii) In addition, the **Contractor** shall be paid five (5%) percent of Article 64.2.1(b)(i) or Article 64.2.1(b)(ii), whichever applies.

64.2.1(c) Except as otherwise provided in Article 64.2.1(d), on all lump sum **Contracts**, the **Contractor** shall be paid the percentage indicated below applied to the difference between the total lump sum bid amount and the total of all payments made prior to the notice of termination plus all payments allowed pursuant to Articles 64.2.1(a) and 64.2.1(b):

64.2.1(c)(i) Five (5%) percent of the first five million ($5,000,000.) dollars; and

64.2.1(c)(ii) Three (3%) percent of any amount between five million ($5,000,000.) dollars and fifteen million ($15,000,000.) dollars; plus

64.2.1(c)(iii) One (1%) percent of any amount over fifteen million ($15,000,000.) dollars.

64.2.1(d) In the event the City terminates a lump sum **Contract** pursuant to this article within ninety (90) days after registration of the **Contract** with the **Comptroller**, the **Contractor** shall be paid one (1%) percent of the difference between the lump sum bid amount and the total of all payments made pursuant to this article.

64.2.2 Unit Price Contracts or Items: On all unit price **Contracts**, or on unit price items in a **Contract**, the **City** will pay the **Contractor** the sum of Articles 64.2.2(a) and 64.2.2(b), less all payments previously made pursuant to this **Contract**:

64.2.2(a) For all completed units, the unit price stated in the **Contract**, and

64.2.2(b) For units that have been ordered but are only partially completed, the **Contractor** will be paid:

64.2.2(b)(i) A pro rata portion of the unit price stated in the **Contract** based upon the percent completion of the unit and

64.2.2(b)(ii) For non-cancelable material and equipment, payment will be made pursuant to Article 64.2.1(b).

64.2.3 Time and Material Contracts or Items: On all **Contracts** or items in a **Contract** where time and material records are specified as the basis for payment of the **Work**, the **Contractor** shall be paid in accordance with Article 26, less all payments previously made pursuant to this **Contract**.

64.2.4 Direct Costs: Direct Costs as used in this article shall mean:

64.2.4(a) The actual purchase price of material and equipment, plus necessary and reasonable delivery costs,

64.2.4(b) The actual cost of labor involved in construction and installation at the **Site**, and

64.2.4(c) The actual cost of necessary bonds and insurance purchased pursuant to requirements of this **Contract** less any amounts that have been or should be refunded by the **Contractor's** sureties or insurance carriers.

64.2.4(d) Direct Cost shall not include overhead.

64.3 In no event shall any payments under this article exceed the **Contract** price for such items.

64.4 All payments pursuant to this article shall be in the nature of liquidated damages and shall be accepted by the **Contractor** in full satisfaction of all claims against the **City**.

64.5 The **City** may deduct or set off against any sums due and payable pursuant to this article, any deductions authorized by this **Contract** or by **Law** (including but not limited to liquidated damages) and any claims it may have against the **Contractor**. The **City's** exercise of the right to terminate the **Contract** pursuant to this article shall not impair or otherwise effect the **City's** right to assert any claims it may have against the **Contractor** in a plenary action.

64.6 Where the **Work** covered by the **Contract** has been substantially completed, as determined in writing by the **Commissioner**, termination of the **Work** shall be handled as an omission of **Work** pursuant to Articles 29 and 33, in which case a Change Order will be issued to reflect an appropriate reduction in the **Contract** Sum, or if the amount is determined after final payment, such amount shall be paid by the **Contractor**.

ARTICLE 65. CHOICE OF LAW, CONSENT TO JURISDICTION AND VENUE

65.1 This **Contract** shall be deemed to be executed in the **City** of New York, State of New York, regardless of the domicile of the **Contractor**, and shall be governed by and construed in accordance with the **Laws** of the State of New York and the **Laws** of the United States, where applicable.

65.2 The parties agree that any and all claims asserted against the **City** arising under this **Contract** or related thereto shall be heard and determined in the courts of the State of New York ("New York State Courts") located in the **City** and County of New York. To effect this **Contract** and intent, the **Contractor** agrees:

65.2.1 If the **City** initiates any action against the **Contractor** in Federal Court or in New York State Court, service of process may be made on the **Contractor** either in person, wherever such **Contractor** may be found, or by registered mail addressed to the **Contractor** at its address as set forth in this **Contract**, or to such other address as the **Contractor** may provide to the **City** in writing; and

65.2.2 With respect to any action between the **City** and the **Contractor** in New York State Court, the **Contractor** hereby expressly waives and relinquishes any rights it might otherwise have:

65.2.2(a) To move to dismiss on grounds of forum non conveniens;

65.2.2(b) To remove to Federal Court; and

65.2.2(c) To move for a change of venue to a New York State Court outside New York County.

65.2.3 With respect to any action brought by the **City** against the **Contractor** in Federal Court located in the **City**, the **Contractor** expressly waives and relinquishes any right it might otherwise have to move to transfer the action to a United States Court outside the **City**.

65.2.4 If the **Contractor** commences any action against the **City** in a Court located other than in the **City** and State of New York, upon request of the **City**, the **Contractor** shall either consent to a transfer of the action to a State Court of competent jurisdiction located in the **City** and State of New York or, if the Court where the action is initially brought will not or cannot transfer the action, the **Contractor** shall consent to dismiss such action without prejudice and may thereafter reinstate the action in a State Court of competent jurisdiction in the **City**.

65.3 If any provision(s) of this article is held unenforceable for any reason, each and all other provision(s) shall nevertheless remain in full force and effect.

ARTICLE 66. PARTICIPATION IN AN INTERNATIONAL BOYCOTT

66.1 The **Contractor** agrees that neither the **Contractor** nor any substantially owned affiliated company is participating or shall participate in an international boycott in violation of the provisions of the Export Administration Act of 1979, as amended, or the regulations of the United States Department of Commerce promulgated thereunder.

66.2 Upon the final determination by the Commerce Department or any other **Agency** of the United States as to, or conviction of the **Contractor** or a substantially-owned affiliated company thereof, participation in an international boycott in violation of the provisions of the Export Administration Act of 1979, as amended, or the regulations promulgated thereunder, the **Comptroller** may, at his/her option, render forfeit and void this **Contract**.

66.3 The **Contractor** shall comply in all respects, with the provisions of Section 6-114 of the Administrative Code and the rules and regulations issued by the **Comptroller** thereunder.

ARTICLE 67. LOCALLY BASED ENTERPRISE PROGRAM

67.1 This **Contract** is subject to the requirements of Section 6-108.1 of the Administrative Code and regulations promulgated thereunder. No construction **Contract** shall be awarded unless and until these requirements have been complied with in their entirety.

67.2 Unless specifically waived by the **Commissioner** with the approval of the Division of Economic and Financial Opportunity of the Department of Business Services, if any portion of the **Contract** is subcontracted, not less than ten (10%) percent of the total dollar amount of the **Contract** shall be awarded to locally based enterprise ("LBEs"); except that where less than ten (10%) percent of the total dollar amount of the **Contract** is subcontracted, such lesser percentage shall be so awarded.

67.3 The prime **Contractor** shall not require performance and payment bonds from LBE **Subcontractors**.

67.4 If the **Contractor** has indicated prior to award that no **Work** will be subcontracted, no **Work** shall be subcontracted without the prior approval of the **Commissioner**, which shall be granted only if the **Contractor** makes a good faith effort beginning at least six (6) weeks before the **Work** is to be performed to obtain LBE **Subcontractors** to perform the **Work**.

67.5 If the **Contractor** has not identified sufficient LBE **Subcontractors** prior to award, it shall sign a letter of compliance stating that it complies with Section 6-108.1 of the Administrative Code, recognizes that achieving the LBE requirement is a condition of its **Contract**, and shall submit documentation demonstrating its good faith efforts to obtain LBEs. After award, the **Contractor** shall begin to solicit LBE's to perform subcontracted **Work** at least six (6) weeks before the date such **Work** is to be performed and shall demonstrate that a good faith effort has been made to obtain LBE's on each subcontract until it meets the required percentage.

67.6 Failure of the **Contractor** to comply with the requirements of Section 6-108.1 of the Administrative Code and the regulations promulgated thereunder shall constitute a material breach of **Contract**. Remedy for such breach of **Contract** may include the imposition of any or all of the following sanctions:

67.6.1 Reducing a **Contractor's** compensation by an amount equal to the dollar value of the percentage of the LBE subcontracting requirement not complied with;

67.6.2 Declaring the **Contractor** in default;

67.6.3 Where non-compliance is by an LBE, de-certifying and declaring the LBE ineligible to participate in the LBE program for a period of up to three (3) years.

ARTICLE 68. ANTITRUST

68.1 The **Contractor** hereby assigns, sells and transfers to the **City** all right, title and interest in and to any claims and causes of action arising under the antitrust **Laws** of New York State or of the United States relating to the particular goods or services purchased or procured by the **City** under this **Contract**.

ARTICLE 69. MacBRIDE PRINCIPLES PROVISIONS

69.1 Notice To All Prospective **Contractors**:

69.1.1 Local Law No. 34 of 1991 became effective on September 10, 1991 and added Section 6-115.1 of the Administrative Code. The local **Law** provides for certain restrictions on **City Contracts** to express the opposition of the people of the **City** to employment discrimination practices in Northern Ireland to promote freedom of work-place opportunity.

69.1.2 Pursuant to Section 6-115.1, prospective **Contractors** for **Contracts** to provide goods or services involving an expenditure of an amount greater than ten thousand ($10,000.) dollars, or for construction involving an amount greater than fifteen thousand ($15,000.) dollars, are asked to sign a rider in which they covenant and represent, as a material condition of their **Contract**, that any business operations in Northern Ireland conducted by the **Contractor** and any individual or legal entity in which the **Contractor** holds a ten (10%) percent or greater ownership interest in the **Contractor** will be conducted in accordance with the MacBride Principles of nondiscrimination in employment.

69.1.3 Prospective **Contractors** are not required to agree to these conditions. However, in the case of **Contracts** let by competitive sealed bidding, whenever the lowest responsible bidder has not agreed to stipulate to the conditions set forth in this notice and another bidder who has agreed to stipulate to such conditions has submitted a bid within five (5%) percent of the lowest responsible bid for a **Contract** to supply goods, services or contraction of comparable quality, the **Agency** shall refer such bids to the Mayor, the Speaker or other officials, as appropriate, who may determine, in accordance with applicable **Law** and rules, that it is in the best interest of the **City** that the **Contract** be awarded to other than the lowest responsible pursuant to Section 313(b)(2) of the **City** Charter.

69.1.4 In the case of **Contracts** let by other than competitive sealed bidding, if a prospective **Contractor** does not agree to these conditions, no **Agency**, elected official or the **City** Council shall award the **Contract** to that bidder unless the **Agency** seeking to use the goods, services or construction certifies in writing that the **Contract** is necessary for the **Agency** to perform its functions and there is no other responsible **Contractor** who will supply goods, services or construction of comparable quality at a comparable price.

69.2 In accordance with Section 6-115.1 of the Administrative Code, the **Contractor** stipulates that such **Contractor** and any individual or legal entity in which the **Contractor** holds a ten (10%) percent or greater ownership interest in the **Contractor** either:

69.2.1 Have no business operations in Northern Ireland, or

69.2.2 Shall take lawful steps in good faith to conduct any business operations they have in Northern Ireland in accordance with the MacBride Principles, and shall permit independent monitoring of their compliance with such principles.

69.3 For purposes of this Article, the following terms shall have the following meanings:

69.3.1 "MacBride Principles" shall mean those principles relating to nondiscrimination in employment and freedom of work-place opportunity which require employers doing business in Northern Ireland to:

69.3.1(a) increase the representation of individuals from under-represented religious groups in the workforce, including managerial, supervisory, administrative, clerical and technical jobs;

69.3.1(b) take steps to promote adequate security for the protection of employees from under-represented religious groups both at the work-place and while traveling to and from **Work**;

69.3.1(c) ban provocative religious or political emblems from the workplace;

69.3.1(d) publicly advertise all job openings and make special recruitment efforts to attract applicants from under-represented religious groups;

69.3.1(e) establish layoff, recall and termination procedures which do not in practice favor a particular religious group;

69.3.1(f) abolish all job reservations, apprenticeship restrictions and different employment criteria which discriminate on the basis of religion;

69.3.1(g) develop training programs that will prepare substantial numbers of current employees from under-represented religious groups for skilled jobs, including the expansion of existing programs and the creation of new programs to train, upgrade and improve the skills of workers from under-represented religious groups;

69.3.1(h) establish procedures to asses, identify and actively recruit employees from under-represented religious groups with potential for further advancement; and

69.3.1(i) appoint a senior management staff member to oversee affirmative action efforts and develop a timetable to ensure their full implementation.

69.4 The **Contractor** agrees that the covenants and representations in Article 69.2 are material conditions to this **Contract**. In the event the **Agency** receives information that the **Contractor** who made the stipulation required by this Article is in violation thereof, the **Agency** shall review such information and give the **Contractor** an opportunity to respond. If the **Agency** finds that a violation has occurred, the **Agency** shall have the right to declare the **Contractor** in default in default and/or terminate this **Contract** for cause and procure supplies, services or **Work** from another source in the manner the **Agency** deems proper. In the event of such termination, the **Contractor** shall pay to the **Agency**, or the **Agency** in its sole discretion may withhold from any amounts otherwise payable to the **Contractor**, the difference between the **Contract** price for the uncompleted portion of this **Contract** and the cost to the **Agency** of completing performance of this **Contract** either itself or by engaging another Contractor or Contractors. In the case of a requirement **Contract**, the **Contractor** shall be liable for such difference in price for the entire amount of supplies required by the **Agency** for the uncompleted term of **Contractor's Contract**. In the case of a construction **Contract**, the **Agency** shall also have the right to hold the **Contractor** in partial or total default in accordance with the default provisions of this **Contract**, and/or may seek debarment or suspension of the **Contractor**. The rights and remedies of the **Agency** hereunder shall be in addition to, and not in lieu of, any rights and remedies the **Agency** has pursuant to this **Contract** or by operation of **Law**.

ARTICLE 70. HEALTH INSURANCE COVERAGE

70.1 If the price for which this **Contract** was awarded exceeds $100,000, or if the price for which this **Contract** was awarded when combined with other construction or services contracts awarded the **Contractor** by the **City** in the year prior to award of this **Contract** exceeds $100,000, the **Contractor,** following registration of the **Contract**, shall be required to submit responses to requests for information regarding the nature of any health

insurance provided by the Contractor to its employees and their spouses and domestic partners, upon request of the **Agency** or other designated **City** agency.

ARTICLE 71. PROHIBITION OF TROPICAL HARDWOODS

71.1 Tropical hardwoods, as defined in Section 165 of the New York State Finance **Law** ("Finance **Law**"), shall not be utilized in the performance of this **Contract** except as expressly permitted by Section 165 of the Finance **Law**.

ARTICLE 72. CONFLICTS OF INTEREST

72.1 Section 2604 of the **City** Charter and other related provisions of the **City** Charter, the Administrative Code and the Penal **Law** are applicable under the terms of this **Contract** in relation to Conflicts of Interest and shall be extended to **Subcontractors** authorized to perform **Work**, labor and services pursuant to this **Contract** and further, it shall be the duty and responsibility of the **Contractor** to so inform its respective **Subcontractors**. Notice is hereby given that, under certain circumstances, penalties may be invoked against the donor as well as the recipient of any form of valuable gift.

ARTICLE 73. MERGER CLAUSE

73.1 The Written **Contract** herein, contains all the terms and conditions agreed upon by the parties hereto, and no other agreement, oral or otherwise, regarding the subject matter of this **Contract** shall be deemed to exist or to bind any of the parties hereto, or to vary any of the terms contained herein.

ARTICLE 74. STATEMENT OF WORK

74.1 The **Contractor** shall furnish all labor and materials and perform all **Work** in strict accordance with the **Specifications** and **Addenda** thereto, numbered 9.

ARTICLE 75. COMPENSATION TO BE PAID TO CONTRACTOR

75.1 The **City** will pay and the **Contractor** will accept in full consideration for the performance of the **Contract**, subject to additions and deductions as provided herein, the total sum of: Eight Million, four hundred Dollars, ($8,405,200.00), this said sum being the Amount at which the **Contract** was awarded to the **Contractor** at a public letting thereof, based upon the **Contractor's** bid for the **Contract**.
* five thousand, two hundred dollars 00/100.—

ARTICLE 76. ELECTRONIC FUNDS TRANSFER

76.1 In accordance with Section 6-107.1 of the New York City Administrative Code, the Contractor agrees to accept payments under this Agreement from the City by electronic funds transfer. An electronic funds transfer is any transfer of funds, other than a transaction originated by check, draft or similar paper instrument, which is initiated through an electronic terminal, telephonic instrument or computer or magnetic tape so as to order, instruct or authorize a financial institution to debit or credit an account. Prior to the first payment made under this Agreement, Contractor shall designate one financial institution or other authorized payment agent and shall complete the "EFT Vendor Payment Enrollment Form" (available at http://www.nyc.gov/dof) in order to provide the Commissioner of Finance with information necessary for Contractor to receive electronic funds transfer payments through the designated financial institution or authorized payment agent. The crediting of the amount of a

payment to the appropriate account on the books of a financial institution or other authorized payment agent designated by the Contractor shall constitute full satisfaction by the City for the amount of the payment under this agreement. The account information supplied by the Contractor to facilitate the electronic funds transfer shall remain confidential to the fullest extent provided by law.

76.2 The agency head may waive the application of the requirements herein to payments on contracts entered into pursuant to §315 of the City Charter. In addition, the Commissioner of the Department of Finance and the Comptroller may jointly issue standards pursuant to which the contracting agency may waive the requirements hereunder for payments in the following circumstances: (i) for individuals or classes of individuals for whom compliance imposes a hardship; (ii) for classifications or types of checks; or (iii) in other circumstances as may be necessary in the interest of the City.

ARTICLE 77 – PARTICIPATION BY MINORITY-OWNED AND WOMEN-OWNED BUSINESS ENTERPRISES IN CITY PROCUREMENT

NOTICE TO ALL PROSPECTIVE CONTRACTORS

ARTICLE I. M/WBE PROGRAM

Local Law No. 129 of 2005 added and Local Law 1 of 2013 amended Section 6-129 of the Administrative Code of the City of New York (hereinafter "Section 6-129"). Section 6-129 establishes the program for participation in City procurement ("M/WBE Program") by minority- owned business enterprises ("MBEs") and women-owned business enterprises ("WBEs"), certified in accordance with Section 1304 of the New York City Charter. As stated in Section 6-129, the intent of the program is to address the impact of discrimination on the City's procurement process, and to promote the public interest in avoiding fraud and favoritism in the procurement process, increasing competition for City business, and lowering contract costs. The contract provisions contained herein are pursuant to Section 6-129, and the rules of the Department of Small Business Services ("DSBS") promulgated thereunder.

If this Contract is subject to the M/WBE Program established by Section 6-129, the specific requirements of MBE and/or WBE participation for this Contract are set forth in Schedule B of the Contract (entitled the "M/WBE Utilization Plan"), and are detailed below. The Contractor must comply with all applicable MBE and WBE requirements for this Contract.

All provisions of Section 6-129 are hereby incorporated in the Contract by reference and all terms used herein that are not defined herein shall have the meanings given such terms in Section 6-129. Article I, Part A, below, sets forth provisions related to the participation goals for construction, standard and professional services contracts. Article I, Part B, below, sets forth miscellaneous provisions related to the M/WBE Program.

PART A

PARTICIPATION GOALS FOR CONSTRUCTION, STANDARD AND PROFESSIONAL SERVICES CONTRACTS OR TASK ORDERS

1. The **MBE and/or WBE Participation Goals** established for this Contract or Task Orders issued pursuant to this Contract, ("**Participation Goals**"), as applicable, are set forth on Schedule B, Part I to this Contract (see Page 1, line 1 Total Participation Goals) or will be set forth on Schedule B, Part I to Task Orders issued pursuant to this Contract, as applicable.

The **Participation Goals** represent a percentage of the total dollar value of the Contract or Task Order, as applicable, that may be achieved by awarding subcontracts to firms certified with New York City Department of Small Business Services as MBEs and/or WBEs, and/or by crediting the participation of prime contractors and/or qualified joint ventures as provided in Section 3 below, unless the goals have been waived or modified by Agency in accordance with Section 6-129 and Part A, Sections 10 and 11 below, respectively.

2. If **Participation Goals** have been established for this Contract or Task Orders issued pursuant to this Contract, Contractor agrees or shall agree as a material term of the Contract that Contractor shall be subject to the **Participation Goals**, unless the goals are waived or modified by Agency in accordance with Section 6-129 and Part A, Sections 10 and 11 below, respectively.

3. If **Participation Goals** have been established for this Contract or Task Order issued pursuant to this Contract, a Contractor that is an MBE and/or WBE shall be permitted to count its own participation toward fulfillment of the relevant **Participation Goal**, provided that in accordance with Section 6-129 the value of Contractor's participation shall be determined by subtracting from the total value of the Contract or Task Order, as applicable, any amounts that the Contractor pays to direct subcontractors (as defined in Section 6-129(c)(13)), and provided further that a Contractor that is certified as both an MBE and a WBE may count its own participation either toward the goal for MBEs or the goal for WBEs, but not both.

A Contractor that is a qualified joint venture (as defined in Section 6-129(c)(30)) shall be permitted to count a percentage of its own participation toward fulfillment of the relevant **Participation Goal**. In accordance with Section 6-129, the value of Contractor's participation shall be determined by subtracting from the total value of the Contract or Task Order, as applicable, any amounts that Contractor pays to direct subcontractors, and then multiplying the remainder by the percentage to be applied to total profit to determine the amount to which an MBE or WBE is entitled pursuant to the joint venture agreement, provided that where a participant in a joint venture is certified as both an MBE and a WBE, such amount shall be counted either toward the goal for MBEs or the goal for WBEs, but not both.

4. A. If **Participation Goals** have been established for this Contract, a prospective contractor shall be required to submit with its bid or proposal, as applicable, a completed Schedule B, M/WBE Utilization Plan, Part II (see Pages 2-4) indicating: (a) whether the contractor is an MBE or WBE, or qualified joint venture; (b) the percentage of work it intends to award to direct subcontractors; and (c) in cases where the contractor intends to award direct subcontracts, a description of the type and dollar value of work designated for participation by MBEs and/or WBEs, and the time frames in which such work is scheduled to begin and end. In the event that this M/WBE Utilization Plan indicates that the bidder or proposer, as applicable, does not intend to meet the **Participation Goals**, the bid or proposal, as applicable, shall be deemed non-responsive, unless Agency has granted the bidder or proposer, as applicable, a pre- award waiver of the Participation Goals in accordance with Section 6-129 and Part A, Section 10 below.

B. (i) If this Contract is for a master services agreement or other requirements type contract that will result in the issuance of Task Orders that will be individually registered ("Master Services Agreement") and is subject to M/WBE **Participation Goals**, a prospective contractor shall be required to submit with its bid or proposal, as applicable, a completed Schedule B, M/WBE Participation Requirements for Master Services Agreements That Will Require Individually Registered Task Orders, Part II (page 2) indicating the prospective contractor's certification and required affirmations to make all reasonable good faith efforts to meet participation goals established on each individual Task Order issued pursuant to this Contract, or if a partial waiver is obtained or such goals are modified by the Agency, to meet the modified **Participation Goals** by soliciting and obtaining the participation of certified MBE and/or WBE firms. In the event that the Schedule B indicates that the bidder or proposer, as applicable, does not intend to meet the **Participation Goals** that may be established on Task Orders issued pursuant to this Contract, the bid or proposal, as applicable, shall be deemed nonresponsive.

(ii) **Participation Goals** on a Master Services Agreement will be established for individual Task Orders issued after the Master Services Agreement is awarded. If **Participation Goals** have been established on a Task Order, a contractor shall be required to submit a Schedule B – M/WBE Utilization Plan For Independently Registered Task Orders That Are Issued Pursuant to Master Services Agreements, Part II (see Pages 2-4) indicating: (a) whether the contractor is an MBE or WBE, or qualified joint venture; (b) the percentage of work it intends to award to direct subcontractors; and (c) in cases where the contractor intends to award direct subcontracts, a description of the type and dollar value of work designated for participation by MBEs and/or WBEs, and the time frames in which such work is scheduled to begin and end. The contractor must engage in good faith efforts to meet the **Participation Goals** as established for the Task Order unless Agency has granted the contractor a pre-award waiver of the Participation Goals in accordance with Section 6-129 and Part A, Section 10 below.

C. THE BIDDER/PROPOSER MUST COMPLETE THE SCHEDULE B INCLUDED HEREIN (SCHEDULE B, PART II). A SCHEDULE B SUBMITTED BY THE BIDDER/PROPOSER WHICH DOES NOT INCLUDE THE VENDOR CERTIFICATION AND REQUIRED AFFIRMATIONS (SEE SECTION V OF PART II) WILL BE DEEMED TO BE NON-RESPONSIVE, UNLESS A FULL WAIVER OF THE PARTICIPATION GOALS IS GRANTED (SCHEDULE B, PART III). IN THE EVENT THAT THE CITY DETERMINES THAT THE BIDDER/PROPOSER HAS SUBMITTED A SCHEDULE B WHERE THE VENDOR CERTIFICATION AND REQUIRED AFFIRMATIONS ARE COMPLETED BUT OTHER ASPECTS OF THE SCHEDULE B ARE NOT COMPLETE, OR CONTAIN A COPY OR COMPUTATION ERROR THAT IS AT ODDS WITH THE VENDOR CERTIFICATION AND AFFIRMATIONS, THE BIDDER/PROPOSER WILL BE NOTIFIED BY THE AGENCY AND WILL BE GIVEN FOUR (4) CALENDAR DAYS FROM RECEIPT OF NOTIFICATION TO CURE THE SPECIFIED DEFICIENCIES AND RETURN A COMPLETED SCHEDULE B TO THE AGENCY. FAILURE TO DO SO WILL RESULT IN A DETERMINATION THAT THE BID/PROPOSAL IS NON-RESPONSIVE. RECEIPT OF NOTIFICATION IS DEFINED AS THE DATE NOTICE IS E-MAILED OR FAXED (IF THE BIDDER/PROPOSER HAS PROVIDED AN E-MAIL ADDRESS OR FAX NUMBER), OR NO LATER THAN FIVE (5) CALENDAR DAYS FROM THE DATE OF MAILING OR UPON DELIVERY, IF DELIVERED.

5. Where an **M/WBE** Utilization Plan has been submitted, the Contractor shall, within 30 days of issuance by Agency of a notice to proceed, submit a list of proposed persons or entities to which it intends to award subcontracts within the subsequent 12 months. In the case of multiyear contracts, such list shall also be submitted every year thereafter. The Agency may also require the Contractor to report periodically about the contracts awarded by its direct subcontractors to indirect subcontractors (as defined in Section 6-129(c)(22)). **PLEASE NOTE: If this Contract is a public works project subject to GML §101(5) (i.e., a contract valued at or below $3M for projects in New York City) or if the Contract is subject to a project labor agreement in accordance with Labor Law §222, and the bidder is required to identify at the time of bid submission its intended subcontractors for the Wicks trades (plumbing and gas fitting; steam heating, hot water heating, ventilating and air conditioning (HVAC); and electric wiring), the Contractor must identify all those to which it intends to award construction subcontracts for any portion of the Wicks trade work at the time of bid submission, regardless of what point in the life of the contract such subcontracts will occur. In identifying intended subcontractors in the bid submission, bidders may satisfy any Participation Goals established for this Contract by proposing one or more subcontractors that are MBEs and/or WBEs for any portion of the Wicks trade work.** In the event that the Contractor's selection of a subcontractor is disapproved, the Contractor shall have a reasonable time to propose alternate subcontractors.

6. MBE and WBE firms must be certified by DSBS in order for the Contractor to credit such firms' participation toward the attainment of the **Participation Goals**. Such certification must occur prior to the

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

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

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

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

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

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

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

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

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

(i) The Contractor advertised opportunities to participate in the Contract, where appropriate, in general circulation media, trade and professional association publications and small business media, and publications of minority and women's business organizations;
(ii) The Contractor provided notice of specific opportunities to participate in the Contract, in a timely manner, to minority and women's business organizations;
(iii) The Contractor sent written notices, by certified mail or facsimile, in a timely manner, to advise MBEs or WBEs that their interest in the Contract was solicited;
(iv) The Contractor made efforts to identify portions of the work that could be substituted for portions originally designated for participation by MBEs and/or WBEs in the M/WBE Utilization Plan, and for which the Contractor claims an inability to retain MBEs or WBEs;
(v) The Contractor held meetings with MBEs and/or WBEs prior to the date their bids or proposals were due, for the purpose of explaining in detail the scope and requirements of the work for which their bids or proposals were solicited;
(vi) The Contractor made efforts to negotiate with MBEs and/or WBEs as relevant to perform specific subcontracts, or act as suppliers or service providers;
(vii) Timely written requests for assistance made by the Contractor to Agency's M/WBE liaison officer and to DSBS;
(viii) Description of how recommendations made by DSBS and Agency were acted upon and an explanation of why action upon such recommendations did not lead to the desired level of participation of MBEs and/or WBEs.

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

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

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

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

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

PART B: MISCELLANEOUS

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

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

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

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

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

ARTICLE II. ENFORCEMENT

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

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

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

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

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

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

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

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

AUTHORITY

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

APPROPRIATION
COMMISSIONER'S CERTIFICATE

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

Eight Million, four hundred, five thousand
& two hundred dollars 00/100. —

Dollars ($ 8,405,200.00)

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

P-VSTAT

Department of Design and Construction

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

Deputy Commissioner

COMPTROLLER'S CERTIFICATE

The City of New York

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

$

Comptroller

ACKNOWLEDGEMENT BY COMMISSIONER

State of New York County of Queens ss:

On this 20th day of Dec, 2013, before me personally came Eric Macfarlane to me known, and known to be the Deputy Commissioner of the Department of Design and Construction of The City of New York, the person described as such in and who as such executed the foregoing instrument and acknowledged to me that he executed the same as Deputy Commissioner for the purposes therein mentioned.

Notary Public or Commissioner of Deeds

VICTORIA AYO-VAUGHAN
Notary Public, State of New York
Registration #01AY5014042
Qualified In Queens County
Commission Expires July 15, 20 15

ACKNOWLEDGEMENT OF PRINCIPAL, IF A CORPORATION

State of NewYork County of Queens ss:

On this 19th day of Dec, 2013, before me personally came MICHAEL THOMPSON to me known who, being by me duly sworn did depose and say that he resides at 490 BUTLER BLVD STATEN ISLAND, NY 10309 that he is the PRESIDENT of the corporation described in and which executed the foregoing instrument; that he knows the seal of said corporation; that one of the seals affixed to said instrument is such seal; that it was so affixed by order of the directors of said corporation, and that he signed his name thereto by like order.

VICTORIA AYO-VAUGHAN
Notary Public, State of New York
Registration #01AY5014042
Qualified In Queens County
Commission Expires July 15, 2017

Notary Public or Commissioner of Deeds

ACKNOWLEDGEMENT OF PRINCIPAL, IF A PARTNERSHIP

State of _____ County of _____ ss:

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

Notary Public or Commissioner of Deeds

ACKNOWLEDGEMENT OF PRINCIPAL, IF AN INDIVIDUAL

State of _____ County of _____ ss:

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

Notary Public or Commissioner of Deeds

Deputy

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

THE CITY OF NEW YORK

By: _____
Deputy Commissioner

CONTRACTOR:

By: _____
(Member of Firm or Officer of Corporation)

Title: PRESIDENT

(Where Contractor is a Corporation, add):
Attest:

_____
Secretary

(Seal)

_____

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

Performance Bond #1 (Pages 80 to 83): Use if the total contract price is $5 Million Or Less. Performance Bond #1 has been approved by the U.S. Small Business Administration ("SBA") for participation in its Bond Guarantee Program.

PERFORMANCE BOND #1

KNOW ALL PERSONS BY THESE PRESENTS:,
That we, _____

_____

_____

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

_____

_____

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

_____

_____

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

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

_____

_____

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

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

Bond No. PB12048700002

Performance Bond #2 (Pages 84 to 87): Use if the total contract price is more than $5 Million.

PERFORMANCE BOND #2

KNOW ALL PERSONS BY THESE PRESENTS:,
That we, NY Asphalt, Inc.
73 Industrial Loop
Staten Island, NY 10309
hereinafter referred to as the "Principal,"
and, Philadelphia Indemnity Insurance Company
One Bala Plaza, Suite 100
Bala Cynwyd, Pennsylvania 19004
hereinafter referred to as the "Surety" ("Sureties") are held and firmly bound to THE CITY OF NEW YORK, hereinafter referred to as the "City" or to its successors and assigns in the penal sum
of Eight Million, Four Hundred Five Thousand, Two Hundred and 00/100 Dollars

($ 8,405,200.00) Dollars, lawful money of the United States for the payment of which said sum of money well and truly to be made, we, and each of us, bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

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

FMS ID: P-USTA1, E-PIN: 85014B0032001, DDC PIN: 8502014HW0007C, USTA UN Avenue Connector Road Relocation - Borough of Queens

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

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

Performance Bond #2 (Pages 84 to 87): Use if the total contract price is more than $5 Million.

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

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

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

Performance Bond #2 (Pages 84 to 87): Use if the total contract price is more than $5 Million.

PERFORMANCE BOND #2 (Page 3)

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

17th day of December 20 13

(Seal) NY Asphalt, Inc. (L.S.)
Principal

By: _____

(Seal) Surety

By: Philadelphia Indemnity Insurance Company

Laura Braue, Attorney-In-Fact Surety

(Seal) By: _____

(Seal) Surety

By: _____

(Seal) Surety

By: _____

(Seal) Surety

By: _____

Bond Premium Rate $25/15/10

Bond Premium Cost $151,078

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

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

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

Performance Bond #2 (Pages 84 to 87): Use if the total contract price is more than $5 Million.

ACKNOWLEDGMENT OF PRINCIPAL IF A CORPORATION

State of _____ County of _____ ss:

On this 17th day of December, 20 13 before me personally came _____, to me known, who, being by me duly sworn did depose and say that he resides at _____ _____; that he/she is the _____ of the corporation described in and which executed the foregoing instrument; that he/she signed his/her name to the foregoing instrument by order of the directors of said corporation as the duly authorized and binding act thereof.

_____
Notary Public or Commissioner of Deeds.

ACKNOWLEDGMENT OF PRINCIPAL IF A PARTNERSHIP

State of _____ County of _____ ss:

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

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

_____
Notary Public or Commissioner of Deeds

ACKNOWLEDGMENT OF PRINCIPAL IF AN INDIVIDUAL

State of _____ County of _____ ss:

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

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

_____
Notary Public or Commissioner of Deeds

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

* * * * * * * *

Affix Acknowledgments and Justification of Sureties.

SURETY ACKNOWLEDGEMENT

State of New Jersey
ss:
County of *Morris*

On this 17th day of December , *2013* , before me personally comes *Laura Braue* to me known, who, being by me duly sworn, deposes and says that he resides in the City of *Chester Borough, NJ* that he is the Attorney-In-Fact of the *Philadelphia Indemnity Insurance Company* the Corporation described in and which executed the foregoing instrument; that he knows that seal of the said Corporation; that the seal affixed to the said instrument is such Corporate seal; that it was so affixed by the order of the Board of Directors of the said Corporation, and that he signed his name thereto by like order.

Jennifer A. Crozier

(Signature and Title of Official Taking Acknowledgement)

Jennifer A. Crozier
Notary Public
State of New Jersey
My Commission Expires January 23, 2017

PHILADELPHIA INDEMNITY INSURANCE COMPANY
231 St. Asaph's Rd., Suite 100
Bala Cynwyd, PA 19004-0950
Power of Attorney

KNOW ALL PERSONS BY THESE PRESENTS: that **PHILADELPHIA INDEMNITY INSURANCE COMPANY** (the Company), a corporation organized and existing under the laws of the Commonwealth of Pennsylvania, does hereby constitute and appoint: **Michael Culnen, Laura Braue and Yannis Legakis of KORE Group, Inc.**

Its true and lawful Attorney(s) in fact with full authority to execute on its behalf bonds, undertakings, recognizances and other contracts of indemnity and writings obligatory in the nature thereof, issued in the course of its business and to bind the Company thereby, in an amount not to exceed **$25,000,000.00**

This Power of Attorney is granted and is signed and sealed by facsimile under and by the authority of the following Resolution adopted by the Board of Directors of PHILADELPHIA INDEMNITY INSURANCE COMPANY at a meeting duly called the 1st day of July, 2011.

RESOLVED: That the Board of Directors hereby authorizes the President or any Vice President of the Company to: (1) Appoint Attorney(s) in Fact and authorize the Attorney(s) in Fact to execute on behalf of the Company bonds and undertakings, contracts of indemnity and other writings obligatory in the nature thereof and to attach the seal of the Company thereto; and (2) to remove, at any time, any such Attorney-in-Fact and revoke the authority given. And, be it

FURTHER RESOLVED: That the signatures of such officers and the seal of the Company may be affixed to any such Power of Attorney or certificate relating thereto by facsimile, and any such Power of Attorney so executed and certified by facsimile signatures and facsimile seal shall be valid and biding upon the Company in the future with the respect to any bond or undertaking to which it is attached.

IN TESTIMONY WHEREOF, PHILADELPHIA INDEMNITY INSURANCE COMPANY HAS CAUSED THIS INSTRUMENT TO BE SIGNED AND ITS CORPORATE SEALTO BE AFFIXED BY ITS AUTHORIZED OFFICE THIS 7TH DAY OF FEBRUARY 2013.

(Seal)

Robert D. O'Leary Jr., President & CEO
Philadelphia Indemnity Insurance Company

On this 7th day of February 2013, before me came the individual who executed the preceding instrument, to me personally known, and being by me duly sworn said that he is the therein described and authorized officer of the **PHILADELPHIA INDEMNITY INSURANCE COMPANY**; that the seal affixed to said instrument is the Corporate seal of said Company; that the said Corporate Seal and his signature were duly affixed.

COMMONWEALTH OF PENNSYLVANIA
NOTARIAL SEAL
DANIELLE PORATH, Notary Public
Lower Merion Twp., Montgomery County
My Commission Expires March 22, 2016

Notary Public:

residing at: Bala Cynwyd, PA

(Notary Seal)

My commission expires: March 22, 2016

I, Craig P. Keller, Executive Vice President, Chief Financial Officer and Secretary of PHILADELPHIA INDEMNITY INSURANCE COMPANY, do herby certify that the foregoing resolution of the Board of Directors and this Power of Attorney issued pursuant thereto are true and correct and are still in full force and effect. I do further certify that Robert D. O'Leary Jr., who executed the Power of Attorney as President, was on the date of execution of the attached Power of Attorney the duly elected President of PHILADELPHIA INDEMNITY INSURANCE COMPANY,

In Testimony Whereof I have subscribed my name and affixed the facsimile seal of each Company this 17th day of December, 20 13.

Craig P. Keller, Executive Vice President, Chief Financial Officer & Secretary
PHILADELPHIA INDEMNITY INSURANCE COMPANY

PHILADELPHIA INDEMNITY INSURANCE COMPANY

Statutory Statements of Admitted Assets, Liabilities and Capital and Surplus

Admitted Assets	As of December 31, 2012	As of December 31, 2011
Bonds, at statement value (market value $5,554,079,175 and $5,046,924,657)	$ 5,148,801,438	$ 4,750,406,952
Common stocks, at fair value (cost $6,228,900 and $8,781,800)	6,228,900	8,781,800
Cash, cash equivalents and short-term investments	81,992,739	(17,628,077)
Receivable for sold securities	126,883	371,131
Cash and invested assets	5,237,149,960	4,741,931,806
Premiums receivable, agents' balances and other receivables	527,610,866	484,522,495
Reinsurance receivable	28,657,053	35,774,455
Accrued investment income	57,334,128	53,873,363
Receivable from affiliates	7,831,835	4,984,299
Net deferred tax asset	160,215,214	141,306,884
Federal income taxes recoverable	28,147,210	-
Guaranty funds receivable	323,335	364,087
Total admitted assets	$ 6,047,269,601	$ 5,462,757,389

Liabilities and Capital and Surplus		
Liabilities:		
Unpaid loss and loss adjustment expenses	$ 2,653,172,627	$ 2,372,160,617
Unearned premiums	1,077,599,587	970,619,442
Reinsurance payable on paid loss and loss adjustment expenses	7,839,717	8,466,755
Ceded reinsurance premiums payable	59,827,255	44,910,680
Commissions payable, contingent commissions and other similar charges	178,129,692	146,801,930
Accrued expenses and other liabilities	29,154,215	26,791,853
Federal income taxes payable	-	13,107,499
Payable to affiliates	5,445,626	1,544,202
Provision for reinsurance	1,397,979	2,773,455
Payable for purchased securities	17,524,284	8,576,135
Total liabilities	$ 4,030,090,982	$ 3,595,752,568
Capital:		
Common stock, par value of $10 per share; 1,000,000 shares authorized, 359,995 shares issued and outstanding	3,599,950	3,599,950
Surplus:		
Gross paid-in and contributed surplus	386,970,317	386,970,317
Special surplus funds	-	41,960,315
Unassigned surplus	1,626,608,352	1,434,474,239
Total surplus	2,013,578,669	1,863,404,871
Total capital and surplus	2,017,178,619	1,867,004,821
Total liabilities and capital and surplus	$ 6,047,269,601	$ 5,462,757,389

The undersigned, being duly sworn, says: That she is the Executive Vice President and Chief Financial Officer of Philadelphia Indemnity Insurance Company; that said Company is a corporation duly organized in the state of Pennsylvania, and licensed and engaged in the State of Pennsylvania and has duly complied with all the requirements of the laws of the said State applicable of the said Company and is duly qualified to act as Surety under such laws; that said Company has also complied with and is duly qualified to act as Surety under the Act of Congress. And that to the best of her knowledge and belief the above statement is a full, true and correct statement of

Attest:

Karen Gilmer-Pauciello, EVP & CFO

Sworn to before me this 11th day of June 2013.

Kimberly Kessleski, Notary

COMMONWEALTH OF PENNSYLVANIA
Notarial Seal
Kimberly A. Kessleski, Notary Public
Lower Merion Twp., Montgomery County
My Commission Expires Dec. 18, 2016
MEMBER, PENNSYLVANIA ASSOCIATION OF NOTARIES

State of New York

DEPARTMENT OF FINANCIAL SERVICES

WHEREAS IT APPEARS THAT

Philadelphia Indemnity Insurance Company

Home Office Address Bala Cynwyd, Pennsylvania

Organized under the Laws of Pennsylvania

has complied with the necessary requirements of or pursuant to law, it is hereby

licensed to do within this State the business of

accident and health, fire, miscellaneous property, water damage, burglary and theft, glass, boiler and machinery, elevator, animal, collision, personal injury liability, property damage liability, workers' compensation and employers' liability, fidelity and surety, credit, motor vehicle and aircraft physical damage, marine and inland marine, marine protection and indemnity , residual value, legal services and gap insurance, as specified in paragraph(s) 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 19, 20, 21, 22, 29 and 26(A)(B)(C)(D) of Section 1113(a) of the New York Insurance Law and also such workers' compensation insurance as may be incident to coverages contemplated under paragraphs 20 and 21 of Section 1113(a), including insurances described in the Longshoremen's and Harbor Workers' Compensation Act (Public Law No. 803, 69 Cong. as amended; 33 USC Section 901 et seq. as amended) to the extent permitted by certified copy of its charter document on file in this Department until July 1, 2014.



In Witness Whereof, I have hereunto set my hand and affixed the official seal of this Department at the City of Albany, New York, this 1st day of July, 2013

Benjamin M. Lawsky
Superintendent

By Jacqueline Catalfamo

Jacqueline Catalfamo
Special Deputy Superintendent

Original on Watermarked Paper

Bond No. PB12048700002

Payment Bond (Pages 88 to 91): Use for any contract for which a Payment Bond is required.

PAYMENT BOND

KNOW ALL PERSONS BY THESE PRESENTS, That we, NY Asphalt, Inc.
73 Industrial Loop
Staten Island, NY 10309

hereinafter referred to as the "Principal", and Philadelphia Indemnity Insurance Company
One Bala Plaza, Suite 100
Bala Cynwyd, Pennsylvania 19004

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

Eight Million, Four Hundred Five Thousand, Two Hundred and 00/100 Dollars

($ 8,405,200.00) Dollars, lawful money of the United States, for the payment of which said sum of money well and truly to be made, we, and each of us, bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

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

FMS ID: P-USTA1, E-PIN: 85014B0032001, DDC PIN: 8502014HW0007C, USTA UN Avenue Connector Road
Relocation - Borough of Queens

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

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

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

Payment Bond (Pages 88 to 91): Use for any contract for which a Payment Bond is required.

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

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

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

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

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

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

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

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

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

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

Payment Bond (Pages 88 to 91): Use for any contract for which a Payment Bond is required.

PAYMENT BOND (Page 3)

IN WITNESS WHEREOF, the Principal and the Surety (Sureties) have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereunto affixed and these presents to be signed by their proper officers, this 17th day of December, 2013.

(Seal) NY Asphalt, Inc. (L.S.)
Principal
By: _____

(Seal) Philadelphia Indemnity Insurance Company
Surety
By: _____
Laura Braue, Attorney-In-Fact

(Seal) _____
Surety
By: _____

(Seal) _____
Surety
By: _____

(Seal) _____
Surety
By: _____

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

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

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

Payment Bond (Pages 88 to 91): Use for any contract for which a Payment Bond is required.

ACKNOWLEDGMENT OF PRINCIPAL, IF A CORPORATION

State of _____ County of _____ ss:

On this 17th day of December, 2013, before me personally came _____ to me known, who, being by me duly sworn did depose and say that he resides at _____ that he is the _____ of _____ the corporation described in and which executed the foregoing instrument; that he knows the seal of said corporation; that one of the seals affixed to said instrument is such seal; that it was so affixed by order of the directors of said corporation, and that he signed his name thereto by like order.

_____
Notary Public or Commissioner of Deeds

ACKNOWLEDGMENT OF PRINCIPAL, IF A PARTNERSHIP

State of _____ County of _____ ss:

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

_____
Notary Public or Commissioner of Deeds

ACKNOWLEDGMENT OF PRINCIPAL, IF AN INDIVIDUAL

State of _____ County of _____ ss:

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

_____
Notary Public or Commissioner of Deeds

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

* * * * * * * *

Affix Acknowledgments and Justification of Sureties.

SURETY ACKNOWLEDGEMENT

State of New Jersey
ss:
County of *Morris*

On this 17th day of December , *2013* , before me personally comes *Laura Braue* to me known, who, being by me duly sworn, deposes and says that he resides in the City of *Chester Borough, NJ* that he is the Attorney-In-Fact of the *Philadelphia Indemnity Insurance Company* the Corporation described in and which executed the foregoing instrument; that he knows that seal of the said Corporation; that the seal affixed to the said instrument is such Corporate seal; that it was so affixed by the order of the Board of Directors of the said Corporation, and that he signed his name thereto by like order.

Jennifer Crozier
(Signature and Title of Official Taking Acknowledgement)

Jennifer A. Crozier
Notary Public
State of New Jersey
My Commission Expires January 23, 2017

PHILADELPHIA INDEMNITY INSURANCE COMPANY
231 St. Asaph's Rd., Suite 100
Bala Cynwyd, PA 19004-0950
Power of Attorney

KNOW ALL PERSONS BY THESE PRESENTS: that **PHILADELPHIA INDEMNITY INSURANCE COMPANY** (the Company), a corporation organized and existing under the laws of the Commonwealth of Pennsylvania, does hereby constitute and appoint: **Michael Culnen, Laura Braue and Yannis Legakis of KORE Group, Inc.**

Its true and lawful Attorney(s) in fact with full authority to execute on its behalf bonds, undertakings, recognizances and other contracts of indemnity and writings obligatory in the nature thereof, issued in the course of its business and to bind the Company thereby, in an amount not to exceed **$25,000,000.00**

This Power of Attorney is granted and is signed and sealed by facsimile under and by the authority of the following Resolution adopted by the Board of Directors of PHILADELPHIA INDEMNITY INSURANCE COMPANY at a meeting duly called the 1st day of July, 2011.

RESOLVED: That the Board of Directors hereby authorizes the President or any Vice President of the Company to: (1) Appoint Attorney(s) in Fact and authorize the Attorney(s) in Fact to execute on behalf of the Company bonds and undertakings, contracts of indemnity and other writings obligatory in the nature thereof and to attach the seal of the Company thereto; and (2) to remove, at any time, any such Attorney-in-Fact and revoke the authority given. And, be it

FURTHER RESOLVED: That the signatures of such officers and the seal of the Company may be affixed to any such Power of Attorney or certificate relating thereto by facsimile, and any such Power of Attorney so executed and certified by facsimile signatures and facsimile seal shall be valid and biding upon the Company in the future with the respect to any bond or undertaking to which it is attached.

IN TESTIMONY WHEREOF, PHILADELPHIA INDEMNITY INSURANCE COMPANY HAS CAUSED THIS INSTRUMENT TO BE SIGNED AND ITS CORPORATE SEALTO BE AFFIXED BY ITS AUTHORIZED OFFICE THIS 7TH DAY OF FEBRUARY 2013.

(Seal)

Robert D. O'Leary Jr., President & CEO
Philadelphia Indemnity Insurance Company

On this 7th day of February 2013, before me came the individual who executed the preceding instrument, to me personally known, and being by me duly sworn said that he is the therein described and authorized officer of the **PHILADELPHIA INDEMNITY INSURANCE COMPANY**; that the seal affixed to said instrument is the Corporate seal of said Company; that the said Corporate Seal and his signature were duly affixed.

COMMONWEALTH OF PENNSYLVANIA
NOTARIAL SEAL
DANIELLE PORATH, Notary Public
Lower Merion Twp., Montgomery County
My Commission Expires March 22, 2016

Notary Public: _____

residing at: Bala Cynwyd, PA

(Notary Seal)

My commission expires: March 22, 2016

I, Craig P. Keller, Executive Vice President, Chief Financial Officer and Secretary of PHILADELPHIA INDEMNITY INSURANCE COMPANY, do herby certify that the foregoing resolution of the Board of Directors and this Power of Attorney issued pursuant thereto are true and correct and are still in full force and effect. I do further certify that Robert D. O'Leary Jr., who executed the Power of Attorney as President, was on the date of execution of the attached Power of Attorney the duly elected President of PHILADELPHIA INDEMNITY INSURANCE COMPANY,

In Testimony Whereof I have subscribed my name and affixed the facsimile seal of each Company this 17th day of December, 20 13.

Craig P. Keller, Executive Vice President, Chief Financial Officer & Secretary
PHILADELPHIA INDEMNITY INSURANCE COMPANY

PHILADELPHIA INDEMNITY INSURANCE COMPANY

Statutory Statements of Admitted Assets, Liabilities and Capital and Surplus

Admitted Assets	As of December 31, 2012	2011
Bonds, at statement value (market value $5,554,079,175 and $5,046,924,657)	$ 5,148,801,438	$ 4,750,406,952
Common stocks, at fair value (cost $6,228,900 and $8,781,800)	6,228,900	8,781,800
Cash, cash equivalents and short-term investments	81,992,739	(17,628,077)
Receivable for sold securities	126,883	371,131
Cash and invested assets	5,237,149,960	4,741,931,806
Premiums receivable, agents' balances and other receivables	527,610,866	484,522,495
Reinsurance receivable	28,657,053	35,774,455
Accrued investment income	57,334,128	53,873,363
Receivable from affiliates	7,831,835	4,984,299
Net deferred tax asset	160,215,214	141,306,884
Federal income taxes recoverable	28,147,210	-
Guaranty funds receivable	323,335	364,087
Total admitted assets	$ 6,047,269,601	$ 5,462,757,389

Liabilities and Capital and Surplus		
Liabilities:		
Unpaid loss and loss adjustment expenses	$ 2,653,172,627	$ 2,372,160,617
Unearned premiums	1,077,599,587	970,619,442
Reinsurance payable on paid loss and loss adjustment expenses	7,839,717	8,466,755
Ceded reinsurance premiums payable	59,827,255	44,910,680
Commissions payable, contingent commissions and other similar charges	178,129,692	146,801,930
Accrued expenses and other liabilities	29,154,215	26,791,853
Federal income taxes payable	-	13,107,499
Payable to affiliates	5,445,626	1,544,202
Provision for reinsurance	1,397,979	2,773,455
Payable for purchased securities	17,524,284	8,576,135
Total liabilities	$ 4,030,090,982	$ 3,595,752,568
Capital:		
Common stock, par value of $10 per share; 1,000,000 shares authorized, 359,995 shares issued and outstanding	3,599,950	3,599,950
Surplus:		
Gross paid-in and contributed surplus	386,970,317	386,970,317
Special surplus funds	-	41,960,315
Unassigned surplus	1,626,608,352	1,434,474,239
Total surplus	2,013,578,669	1,863,404,871
Total capital and surplus	2,017,178,619	1,867,004,821
Total liabilities and capital and surplus	$ 6,047,269,601	$ 5,462,757,389

The undersigned, being duly sworn, says: That she is the Executive Vice President and Chief Financial Officer of Philadelphia Indemnity Insurance Company; that said Company is a corporation duly organized in the state of Pennsylvania, and licensed and engaged in the State of Pennsylvania and has duly complied with all the requirements of the laws of the said State applicable of the said Company and is duly qualified to act as Surety under such laws; that said Company has also complied with and is duly qualified to act as Surety under the Act of Congress. And that to the best of her knowledge and belief the above statement is a full, true and correct statement of

Attest:

Karen Gilmer-Pauciello, EVP & CFO

Sworn to before me this 11th day of June 2013.

Kimberly Kessleski, Notary

COMMONWEALTH OF PENNSYLVANIA
Notarial Seal
Kimberly A. Kessleski, Notary Public
Lower Merion Twp., Montgomery County
My Commission Expires Dec. 18, 2016
MEMBER, PENNSYLVANIA ASSOCIATION OF NOTARIES

State of New York

DEPARTMENT OF FINANCIAL SERVICES

WHEREAS IT APPEARS THAT

Philadelphia Indemnity Insurance Company

Home Office Address Bala Cynwyd, Pennsylvania

Organized under the Laws of Pennsylvania

has complied with the necessary requirements of or pursuant to law, it is hereby

licensed to do within this State the business of

accident and health, fire, miscellaneous property, water damage, burglary and theft, glass, boiler and machinery, elevator, animal, collision, personal injury liability, property damage liability, workers' compensation and employers' liability, fidelity and surety, credit, motor vehicle and aircraft physical damage, marine and inland marine, marine protection and indemnity, residual value, legal services and gap insurance, as specified in paragraph(s) 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 19, 20, 21, 22, 29 and 26(A)(B)(C)(D) of Section 1113(a) of the New York Insurance Law and also such workers' compensation insurance as may be incident to coverages contemplated under paragraphs 20 and 21 of Section 1113(a), including insurances described in the Longshoremen's and Harbor Workers' Compensation Act (Public Law No. 803, 69 Cong. as amended; 33 USC Section 901 et seq. as amended) to the extent permitted by certified copy of its charter document on file in this Department until July 1, 2014.

In Witness Whereof, I have hereunto set my hand and affixed the official seal of this Department at the City of Albany, New York, this 1st day of July, 2013

Benjamin M. Lawsky
Superintendent

By Jacqueline Catalfamo

Jacqueline Catalfamo
Special Deputy Superintendent

Original on Watermarked Paper

SCHEDULE OF WORKMEN, MECHANICS AND LABORERS

The following is a list of classifications for workmen, mechanics and laborers which are anticipated to be employed in the performance of work under this contract, followed by a schedule of the prevailing wage rates and supplemental benefits for all classifications as established by the Comptroller of the City of New York.

Request for interpretation or correction under Subsection A of Section No. 3 in the Information for Bidders includes all requests for clarification of the classification of trades to be employed in the performance of the work under this contract.

In the event that a trade not listed in the classification of trades required to be used at the time of the award of the contract is in fact employed during the performance of this contract, the Contractor shall be required to obtain from the agency the prevailing wage rates and supplementary benefits for the trades used and to complete the performance of this contract at the price at which the contract was awarded.

CODE	CLASSIFICATION
15 42 001	Rigger
15 42 002	Sign Erector
16 11 001	Gardener
16 11 002	Tree Pruner
16 11 003	Tree Remover
16 11 011	Asphalt Raker (Highway & Paving)
16 11 012	Tamper (Highway & Paving)
16 11 013	Curbsetter (Highway & Paving)
16 11 014	Formsetter (Highway & Paving)
16 11 015	Rammerman (Highway & Paving)
16 11 016	Laborer (Highway & Paving)
16 11 017	ALL OTHER TITLES (Highway & Paving)
16 23 001	Laborer
16 23 002	Operating Engineer (Heavy Construction-Maintenance)
16 23 003	Junior Operating Engineer
16 23 004	Junior Operating Engineer
16 23 005	Junior Operating Engineer
16 23 006	Fireman (Heavy Construction)
16 23 007	Oiler (Heavy Construction)
16 23 051	Surveyor-Heavy Construction
16 23 052	Surveyor-Heavy Construction-Instrument Man
16 23 053	Surveyor-Heavy Construction-Rodman
16 23 057	Surveyor-Land Surveying-Party Chief
16 23 058	Surveyor-Land Surveying-Instrument Man
16 23 059	Surveyor-Land Surveying-Rodman

CODE	CLASSIFICATION
16 23 061	Operating Engineer-Road & Heavy Construction
16 23 062	Operating Engineer-Paving
16 23 063	Operating Engineer-Concrete
16 23 071	Teamster-Heavy Equipment Trailer Driver
16 23 072	Teamster-Dump Truck Driver
16 23 073	Teamster-Flat Bed Trailer Driver (3-Axle)
16 23 074	Teamster-Redi-Mix (Sand and Gravel)
16 29 011	Drill Runners
17 11 001	Plumbers
17 21 001	Painter (Brush & Roller)
17 31 001	Electrician
17 41 001	Bricklayer
17 41 002	Mason Tender
17 41 004	Cement Mason
17 42 002	Metallic Lather
17 51 001	Carpenter
17 51 002	Dock Builder
17 71 001	Cement & Concrete Worker
17 91 001	Structural Iron Worker
17 95 001	Barman
17 96 021	Derrickmen & Riggers
17 99 001	Ornamental Iron Worker
17 99 002	Sandblaster
17 99 005	Pointers (Waterproofer)
17 99 011	Welders

Each classification may include trainees depending upon project staffing schedules and as required by the terms of this contract.

LABOR LAW §220 PREVAILING WAGE SCHEDULE

Workers, Laborers and Mechanics employed on a public work project must receive not less than the prevailing rate of wage and benefits for the classification of work performed by each upon such public work. Pursuant to Labor Law §220 the Comptroller of the City of New York has promulgated this schedule solely for Workers, Laborers and Mechanics engaged by private contractors on New York City public work contracts.

Contracting agencies anticipating doing work which requires the employment of a trade or classification not included in this schedule must request the Comptroller to establish a proper classification for the work pursuant to Labor Law §220 (3-a) (a). The prevailing rate schedule as promulgated by the Comptroller, must, in compliance with law, be annexed to and form part of the contract.

Contractors are solely responsible for maintaining original payroll records which delineate, among other things, the hours each employee worked within a given classification. Contractors using rates and/or classifications not promulgated by the Comptroller do so at their own risk. Additionally, prior to bid, Agency Chief Contracting Officers must contact the Bureau of Labor Law when the need arises for a work classification not published in this schedule.

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

This schedule is applicable for work performed during the effective period, unless otherwise noted. You will be notified of any changes to this schedule by addenda published on our web site at www.comptroller.nyc.gov. The rate of wages and supplemental benefits to be paid or provided are those that prevail at the time the work is being performed. Preliminary schedules for future one-year periods are published annually in the City Record on or about June 1st of each succeeding year. Final schedules are published on or about July 1st in the City Record and on our web site at www.comptroller.nyc.gov.

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

Answers to questions concerning prevailing trade practices may be obtained from the Classification Unit by calling (212) 669-7974. Please direct all other compliance issues to: Bureau of Labor Law, Attn: Wasyl Kinach, P.E., Office of the Comptroller, 1 Centre Street, Room 1122, New York, N.Y. 10007; Fax (212) 669-4002.

Prevailing rates and ratios for apprentices are attached to this schedule in the Appendix. Pursuant to Labor Law §220 (3-e), only apprentices who are individually registered in a bona fide program to which the employer contractor is a participant, registered with the New York State Department of Labor, may be employed on a public work project. Workers who are not journey persons or not registered apprentices pursuant to Labor Law §220 (3-e) may not be substituted for apprentices and must be paid as journey persons.

Contractors are advised to review the applicable Collective Bargaining Agreements and the Comptroller's Prevailing Wage Schedule before bidding on Public Work. If there are any questions concerning prevailing wages, benefits, overtime, Holiday pay, shift differentials or any prevailing practice, please contact this office.

Public Work construction, reconstruction, demolition, excavation, rehabilitation, repair, renovation, alteration, or improvement contracts awarded pursuant to a Project Labor Agreement ("PLA") in accordance with Labor Law section 222 may have different labor standards for shift, premium and overtime work. Please refer to the PLA's pre-negotiated labor agreements for wage and benefit rates applicable to work performed outside of the regular workday. More information is available at the Mayor's Office of Contract Services (MOCS) web page at http://www.nyc.gov/html/mocs/html/vendors/pla.shtml.

All the provisions of Labor Law section 220 remain applicable to PLA work including, but not limited to, the enforcement of prevailing wage requirements by the Comptroller; however, we will enforce shift, premium, overtime and other non-standard rates as they appear in a project's pre-negotiated labor agreement.

Any error as to compensation under the prevailing wage law or other information as to trade classification, made by the contracting agency in the contract documents or in any other communication, will not preclude a finding against the contractor of prevailing wage violation.

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

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

Particular attention should be given to the supplemental benefits requirement. Although in most instances the payment or provision for supplemental benefits is for each hour worked, some classifications require the payment or provision of supplemental benefits for each hour paid. Consequently, some prevailing practices require benefits to be purchased at the overtime, shift differential, Holiday, Saturday, Sunday or other premium time rate.

Benefits are paid for *EACH HOUR WORKED* unless otherwise noted.

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

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ASBESTOS HANDLER
(Hazardous Material; Disturbs, removes, encapsulates, repairs, or encloses friable asbestos material)

Asbestos Handler

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $35.90
Supplemental Benefit Rate per Hour: $15.05

Overtime
Time and one half the regular rate after an 8 hour day.
Time and one half the regular rate for Sunday.
Time and one half the regular hourly rate after 40 hours in any work week.

Overtime Holidays
Time and one half the regular rate for work on the following holiday(s).
New Year's Day
Good Friday
Memorial Day
Independence Day
Labor Day
Thanksgiving Day
Christmas Day
Easter

Paid Holidays
None

(Local #78 and Local #12A)

BLASTER

Blaster

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $44.40
Supplemental Benefit Rate per Hour: $38.44

Blaster (Hydraulic)

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $45.17
Supplemental Benefit Rate per Hour: $38.44

Blaster - Trac Drill Hydraulic

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $40.04
Supplemental Benefit Rate per Hour: $38.44

Blaster - Wagon: Air Trac: Quarry Bar: Drillrunners

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $39.30
Supplemental Benefit Rate per Hour: $38.44

Blaster - Operators of Jack Hammers

Chippers: Spaders: Concrete Breakers: and all other pneumatic tools of like usage: Walk Behind Self Propelled Hydraulic Asphalt and Concrete Breakers: Hydro (Water) Demolition

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $38.32
Supplemental Benefit Rate per Hour: $38.44

Blaster - Powder Carriers

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $34.66
Supplemental Benefit Rate per Hour: $38.44

Blaster - Hydraulic Trac Drill Chuck Tender

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $33.46
Supplemental Benefit Rate per Hour: $38.44

Blaster - Chuck Tender & Nipper

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $32.75
Supplemental Benefit Rate per Hour: $38.44

Blaster - Magazine Keepers: (Watch Person)

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $19.76
Supplemental Benefit Rate per Hour: $38.44

Overtime Description

Magazine Keepers:
Time and one half for work performed in excess of forty (40) hours per week and for work performed on Saturdays, Sundays and Holidays.

All Other Employees:
Time and one-half for the first eight hours of work on Saturday and for Make-up Time. Double time for all hours over eight Monday through Friday (except make-up hours) and for all hours worked on Sunday and Holidays.

Overtime

Double time the regular rate after an 8 hour day.
Time and one half the regular rate for Saturday.
Double time the regular rate for Sunday.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).
New Year's Day
Memorial Day
Independence Day
Labor Day
Columbus Day
Presidential Election Day
Thanksgiving Day
Christmas Day

Paid Holidays

None

Shift Rates

A single shift shall be 8 hours plus an unpaid lunch, starting at 8:00 A.M (or between 6:00 A.M. and 10:00 A.M. on weekdays). When two (2) shifts are employed, each shift shall be 8 hours plus ½ hour unpaid lunch. When three (3) shifts are employed, each shift will work seven and one-half (7 ½) hours, but will be paid for eight (8) hours, since only one-half (½) hour is allowed for mealtime. When two (2) or more shifts are employed, single time will be paid for each shift. The first 8 hours of any and all work performed Monday through Friday inclusive of any off-shift shall be at the single time rate.

(Local #29)

BOILERMAKER

Boilermaker

Effective Period: 7/1/2013 - 12/31/2013
Wage Rate per Hour: $49.47
Supplemental Benefit Rate per Hour: $39.78
Supplemental Note: The above rate applies to repair or maintenance and new construction; For time and one half overtime - $59.08; For double overtime - $78.37.

Effective Period: 1/1/2014 - 6/30/2014
Wage Rate per Hour: $50.45
Supplemental Benefit Rate per Hour: $41.31
Supplemental Note: The above rate applies to repair or maintenance and new construction; For time and one half overtime - $61.37; For double overtime - $81.43.

Overtime Description

For Repair and Maintenance work:
Time and one half the regular rate after an 8 hour day.
Time and one half the regular rate for Saturday.
Double time the regular rate for Sunday.
For New Construction work:
Double time the regular rate after an 8 hour day.
Double time the regular time rate for Saturday.
Double time the regular rate for Sunday.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).
New Year's Day
President's Day
Memorial Day
Independence Day
Columbus Day
Election Day
Veteran's Day
Thanksgiving Day
Christmas Day

Quadruple time the regular rate for work on the following holiday(s).
Labor Day

Paid Holidays

Good Friday
Day after Thanksgiving
Day before Christmas
Day before New Year's Day

Shift Rates

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

(Local #5)

BRICKLAYER

Bricklayer

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $46.44
Supplemental Benefit Rate per Hour: $27.53

Overtime

Time and one half the regular rate after a 7 hour day.
Time and one half the regular rate for Saturday.
Double time the regular rate for Sunday.
Saturday may be used as a make-up day at straight time when a day is lost during that week to inclement weather.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).
New Year's Day
Memorial Day
Independence Day
Labor Day
Thanksgiving Day
Christmas Day

Paid Holidays

None

Shift Rates

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

(Bricklayer District Council)

CARPENTER - BUILDING COMMERCIAL

Building Commercial

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $48.08
Supplemental Benefit Rate per Hour: $41.10

Overtime

Time and one half the regular rate after an 8 hour day.
Time and one half the regular rate for Saturday.
Double time the regular rate for Sunday.
Saturday may be used as a make-up day at straight time when a day is lost during that week to inclement weather.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).
New Year's Day
Washington's Birthday
Memorial Day
Independence Day
Labor Day
Columbus Day
Presidential Election Day
Thanksgiving Day
)ay after Thanksgiving
Christmas Day

Paid Holidays
None

Shift Rates
The second shift will receive one hour at the double time rate of pay for the last hour of the shift; eight hours pay for seven hours of work, nine hours pay for eight hours of work. There must be a first shift in order to work a second shift.

(Carpenters District Council)

CARPENTER - HEAVY CONSTRUCTION WORK
(Construction of Engineering Structures and Building Foundations)

Heavy Construction Work

Effective Period: 7/1/2013 - 7/17/2013
Wage Rate per Hour: $46.74
Supplemental Benefit Rate per Hour: $42.37

Effective Period: 7/18/2013 - 6/30/2014
Wage Rate per Hour: $46.82
Supplemental Benefit Rate per Hour: $44.97

Overtime
Time and one half the regular rate after an 8 hour day.
Time and one half the regular rate for Saturday.
Double time the regular rate for Sunday.
Saturday may be used as a make-up day at straight time when a day is lost during that week to inclement weather.

Overtime Holidays
Double time the regular rate for work on the following holiday(s).
New Year's Day
President's Day
Memorial Day
Independence Day
Labor Day
Columbus Day
Presidential Election Day
Thanksgiving Day
Christmas Day

Paid Holidays
None

Shift Rates

Off shift work, commencing between 5:00 P.M. and 10:00 P.M. shall work eight and one half hours allowing for one half hour for lunch, but will be paid for 9 hours including benefits at the straight time rate for 8 hours.

(Carpenters District Council)

CEMENT & CONCRETE WORKER

Cement & Concrete Worker

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $42.33
Supplemental Benefit Rate per Hour: $26.17
Supplemental Note: $28.92 on Saturdays; $31.67 on Sundays & Holidays

Overtime Description
Time and one half the regular rate after 7 hour day (time and one half the regular rate after an 8 hour day when working with Dockbuilders on pile cap forms and for work below street level to the top of the foundation wall, not to exceed 2 feet or 3 feet above the sidewalk-brick shelf, when working on the foundation and structure.)

Overtime
Time and one half the regular rate for Saturday.
Double time the regular rate for Sunday.

Overtime Holidays
Double time the regular rate for work on the following holiday(s).
New Year's Day
President's Day
Good Friday
Memorial Day
Independence Day
Labor Day
Columbus Day
Presidential Election Day
Thanksgiving Day
Christmas Day

Paid Holidays
1/2 day before Christmas Day
1/2 day before New Year's Day

Shift Rates
On shift work extending over a twenty-four hour period, all shifts are paid at straight time.

(Cement Concrete Workers District Council)

CEMENT MASON

Cement Mason

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $38.63
Supplemental Benefit Rate per Hour: $39.05
Supplemental Note: Overtime supplemental benefit rate per hour: $57.55

Overtime Description
Time and one-half the regular rate after an 8 hour day, double time the regular rate after 10 hours. Time and one-half the regular rate on Saturday, double time the regular rate after 10 hours. Double time the regular rate on Sunday.

Overtime Holidays
Double time the regular rate for work on the following holiday(s).
New Year's Day
President's Day
Good Friday
Memorial Day
Independence Day
Labor Day
Columbus Day
Presidential Election Day
Thanksgiving Day
Christmas Day

Paid Holidays
Any worker who reports to work on Christmas Eve or New Year's Eve pursuant to his employer's instruction shall be entitled to three (3) hours afternoon pay without working.

Shift Rates
For an off shift day, (work at times other than the regular 7:00 A.M. to 3:30 P.M. work day) a cement mason shall be paid at the regular hourly rate plus a 25% per hour differential. Four Days a week at Ten (10)hour day.

(Local #780)

CORE DRILLER

Core Driller

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $35.44
Supplemental Benefit Rate per Hour: $19.75

Core Driller Helper

Effective Period: 7/1/2013 - 6/30/2014

Wage Rate per Hour: $28.60
Supplemental Benefit Rate per Hour: $19.75

Core Driller Helper(Third year in the industry)

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $25.74
Supplemental Benefit Rate per Hour: $19.75

Core Driller Helper (Second year in the industry)

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $22.88
Supplemental Benefit Rate per Hour: $19.75

Core Driller Helper (First year in the industry)

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $20.02
Supplemental Benefit Rate per Hour: $19.75

Overtime Description

Time and one half the regular rate for work on a holiday plus Holiday pay when worked.

Overtime

Time and one half the regular rate after an 8 hour day.
Time and one half the regular rate for Saturday.
Double time the regular rate for Sunday.
Time and one half the regular rate for work on the following holiday(s).

Paid Holidays

New Year's Day
Memorial Day
Independence Day
Labor Day
Thanksgiving Day
Christmas Day

Shift Rates

The shift day shall be the continuous eight and one-half (8½) hours from 6:00 A.M. to 2:30 P.M. and from 2:30 P.M. to 11:00 P.M., including one-half (½) hour of employees regular rate of pay for lunch. When two (2) or more shifts are employed, single time shall be paid for each shift, but those employees employed on a shift other than from 8:00 A.M. to 5:00 P.M. shall, in addition, receive seventy-five cents ($0.75) per hour differential for each hour worked. When three (3) shifts are needed, each shift shall work seven and one-half (7 ½) hours paid for eight (8) hours of labor and be permitted one-half (½) hour for mealtime.

(Carpenters District Council)

DERRICKPERSON AND RIGGER

Derrick Person & Rigger

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $40.50
Supplemental Benefit Rate per Hour: $42.07
Supplemental Note: The above supplemental rate applies for work performed in Manhattan, Bronx, Brooklyn and Queens. $43.49 - For work performed in Staten Island.

Derrick Person & Rigger - Site Work

For site work where no rigging is involved.

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $30.00
Supplemental Benefit Rate per Hour: $31.32

Overtime Description
The first two hours of overtime on weekdays and the first seven hours of work on Saturdays are paid at time and one half for wages and supplemental benefits. All additional overtimes is paid at double time for wages and supplemental benefits. Deduct $1.42 from the Staten Island hourly benefits rate before computing overtime.

Overtime
Double time the regular rate for Sunday.

Overtime Holidays
Double time the regular rate for work on the following holiday(s).
New Year's Day
Washington's Birthday
Good Friday
Memorial Day
Independence Day
Labor Day
Thanksgiving Day
Christmas Day

Paid Holidays
1/2 day on Christmas Eve if work is performed in the A.M.

(Local #197)

DIVER

Diver (Marine)

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $59.40

Supplemental Benefit Rate per Hour: $44.97

Diver Tender (Marine)

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $42.05
Supplemental Benefit Rate per Hour: $44.97

Overtime
Time and one half the regular rate after an 8 hour day.
Time and one half the regular rate for Saturday.
Double time the regular rate for Sunday.
Saturday may be used as a make-up day at straight time when a day is lost during that week to inclement weather.

Overtime Holidays
Double time the regular rate for work on the following holiday(s).
New Year's Day
President's Day
Memorial Day
Independence Day
Labor Day
Columbus Day
Presidential Election Day
Thanksgiving Day
Christmas Day

Paid Holidays
None

Shift Rates
When three shifts are utilized each shift shall work seven and one half-hours (7 1/2 hours) and paid for 8 hours, allowing for one half hour for lunch.

(Carpenters District Council)

DOCKBUILDER - PILE DRIVER

Dockbuilder - Pile Driver

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $46.82
Supplemental Benefit Rate per Hour: $44.97

Overtime
Time and one half the regular rate after an 8 hour day.
Time and one half the regular rate for Saturday.
Double time the regular rate for Sunday.

Saturday may be used as a make-up day at straight time when a day is lost during that week to inclement weather.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).
New Year's Day
President's Day
Memorial Day
Independence Day
Labor Day
Columbus Day
Presidential Election Day
Thanksgiving Day
Christmas Day

Paid Holidays

None

Shift Rates

Off shift work, commencing between 5:00 P.M. and 11:00 P.M., shall work eight and one half hours allowing for one half hour for lunch but will be paid 113% of the straight time hourly wage and the straight time supplemental benefits.

(Carpenters District Council)

DRIVER: TRUCK (TEAMSTER)

Driver - Automobile Chauffeur (Dump Truck)

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $38.11
Supplemental Benefit Rate per Hour: $40.20

Driver - Heavy Equipment Trailer Driver

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $39.61
Supplemental Benefit Rate per Hour: $40.20
Note: For time and one half overtime Wage Rate - $57.16; for double time overtime Wage Rate - $76.21

Driver - Euclid & Turnapull Operator

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $38.67
Supplemental Benefit Rate per Hour: $40.20

Driver - Six Wheeler(3 Axle) Tractors & Trailers

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $39.11
Supplemental Benefit Rate per Hour: $40.20
Note: For time and one half overtime Wage Rate - $58.01; for double time overtime Wage Rate - $77.34

Driver - Boom Truck

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $39.36
Supplemental Benefit Rate per Hour: $40.20
Note: For time and one half overtime Wage Rate - $58.01; for double time overtime Wage Rate - $77.34

Overtime Description
For Paid Holidays: Holiday pay for all holidays shall be prorated based two hours per day for each day worked in the holiday week, not to exceed 8 hours of holiday pay. For Thanksgiving week, the prorated share shall be 5 1/3 hours of holiday pay for each day worked in Thanksgiving week.

Overtime
Time and one half the regular rate after an 8 hour day.
Time and one half the regular rate for Saturday.
Double time the regular rate for Sunday.

Overtime Holidays
Double time the regular rate for work on the following holiday(s).
New Year's Day
President's Day
Memorial Day
Independence Day
Labor Day
Columbus Day
Veteran's Day
Thanksgiving Day
Day after Thanksgiving
Christmas Day

Paid Holidays
New Year's Day
President's Day
Memorial Day
Independence Day
Labor Day
Columbus Day
Veteran's Day
Thanksgiving Day
Day after Thanksgiving
Christmas Day

Driver - Redi-Mix Driver (Sand & Gravel)

Effective Period: 7/1/2013 - 6/30/2014

Wage Rate per Hour: $35.71
Supplemental Benefit Rate per Hour: $37.27

Overtime Description
For Paid Holidays: Employees working two (2) days in the calendar week in which the holiday falls are to paid for these holidays, provided they shape each remaining workday during that calendar week.

Overtime
Time and one half the regular rate after an 8 hour day.
Time and one half the regular rate for Saturday.
Double time the regular rate for Sunday.

Overtime Holidays
Double time the regular rate for work on the following holiday(s).
President's Day
Columbus Day
Veteran's Day

Triple time the regular rate for work on the following holiday(s).
New Year's Day
Memorial Day
Independence Day
Labor Day
Thanksgiving Day
Christmas Day

Paid Holidays
New Year's Day
President's Day
Memorial Day
Independence Day
Labor Day
Columbus Day
Election Day
Thanksgiving Day
Christmas Day

(Local #282)

ELECTRICIAN
(Including all low voltage cabling carrying data; video; and voice in combination with data and or video.)

Electrician "A" (Regular Day)

Effective Period: 7/1/2013 - 5/13/2014
Wage Rate per Hour: $52.00
Supplemental Benefit Rate per Hour: $46.13

Effective Period: 5/14/2014 - 6/30/2014
Wage Rate per Hour: $53.00
Supplemental Benefit Rate per Hour: $47.54

Electrician "A" (Regular Day Overtime)

Effective Period: 7/1/2013 - 5/13/2014
Wage Rate per Hour: $78.00
Supplemental Benefit Rate per Hour: $49.39

Effective Period: 5/14/2014 - 6/30/2014
Wage Rate per Hour: $79.50
Supplemental Benefit Rate per Hour: $50.86

Electrician "A" (Day Shift)

Effective Period: 7/1/2013 - 5/13/2014
Wage Rate per Hour: $52.00
Supplemental Benefit Rate per Hour: $46.13

Effective Period: 5/14/2014 - 6/30/2014
Wage Rate per Hour: $53.00
Supplemental Benefit Rate per Hour: $47.54

Electrician "A" (Day Shift Overtime After 8 hours)

Effective Period: 7/1/2013 - 5/13/2014
Wage Rate per Hour: $78.00
Supplemental Benefit Rate per Hour: $49.39

Effective Period: 5/14/2014 - 6/30/2014
Wage Rate per Hour: $79.50
Supplemental Benefit Rate per Hour: $50.86

Electrician "A" (Swing Shift)

Effective Period: 7/1/2013 - 5/13/2014
Wage Rate per Hour: $61.01
Supplemental Benefit Rate per Hour: $52.47

Effective Period: 5/14/2014 - 6/30/2014
Wage Rate per Hour: $62.19
Supplemental Benefit Rate per Hour: $54.07

Electrician "A" (Swing Shift Overtime After 7.5 hours)

Effective Period: 7/1/2013 - 5/13/2014
Wage Rate per Hour: $91.52
Supplemental Benefit Rate per Hour: $56.30

Effective Period: 5/14/2014 - 6/30/2014
Wage Rate per Hour: $93.29
Supplemental Benefit Rate per Hour: $57.97

Electrician "A" (Graveyard Shift)

Effective Period: 7/1/2013 - 5/13/2014
Wage Rate per Hour: $68.34
Supplemental Benefit Rate per Hour: $57.83

Effective Period: 5/14/2014 - 6/30/2014
Wage Rate per Hour: $69.66
Supplemental Benefit Rate per Hour: $59.59

Electrician "A" (Graveyard Shift Overtime After 7 hours)

Effective Period: 7/1/2013 - 5/13/2014
Wage Rate per Hour: $102.51
Supplemental Benefit Rate per Hour: $62.11

Effective Period: 5/14/2014 - 6/30/2014
Wage Rate per Hour: $104.49
Supplemental Benefit Rate per Hour: $63.96

Overtime
Time and one half the regular rate after a 7 hour day.
Time and one half the regular rate for Saturday.
Time and one half the regular rate for Sunday.

Overtime Holidays
Time and one half the regular rate for work on a holiday.
New Year's Day
Martin Luther King Jr. Day
President's Day
Memorial Day
Independence Day
Labor Day
Columbus Day
Veteran's Day
Thanksgiving Day
Day after Thanksgiving
Christmas Day

Paid Holidays
None

Shift Rates
When so elected by the Employer, one or more shifts of at least five days duration may be scheduled as follows: Day Shift: 8:00 am to 4:30 pm, Swing Shift 4:30 pm to 12:30 am, Graveyard Shift: 12:30 am to 8:00 am.

For multiple shifts of temporary light and/or power, the temporary light and/or power employee shall be paid for 8 hours at the straight time rate.

Electrician "M" (First 8 hours)

"M" rated work shall be defined as jobbing: electrical work of limited duration and scope, also consisting of repairs and/or replacement of electrical and tele-data equipment. Includes all work necessary to retrofit, service, maintain and repair all kinds of lighting fixtures and local lighting controls and washing and cleaning of foregoing fixtures.

Effective Period: 7/1/2013 - 5/13/2014
Wage Rate per Hour: $26.50
Supplemental Benefit Rate per Hour: $19.56
First and Second Year "M" Wage Rate Per Hour - Hired on or before 5/10/07: $25.80
First and Second Year "M" Supplemental Rate- Hired on or before 5/10/07: $19.21
First and Second Year "M" Wage Rate Per Hour - Hired after 5/10/07: $22.00
First and Second Year "M" Supplemental Rate- Hired after 5/10/07: $17.30

Effective Period: 5/14/2014 - 6/30/2014
Wage Rate per Hour: $27.00
Supplemental Benefit Rate per Hour: $20.32
First and Second Year "M" Wage Rate Per Hour - Hired on or before 5/10/07: $26.30
First and Second Year "M" Supplemental Rate- Hired on or before 5/10/07: $19.96
First and Second Year "M" Wage Rate Per Hour - Hired after 5/10/07: $22.50
First and Second Year "M" Supplemental Rate- Hired after 5/10/07: $18.06

Electrician "M" (Overtime After First 8 hours)

"M" rated work shall be defined as jobbing: electrical work of limited duration and scope, also consisting of repairs and/or replacement of electrical and tele-data equipment. Includes all work necessary to retrofit, service, maintain and repair all kinds of lighting fixtures and local lighting controls and washing and cleaning of foregoing fixtures.

Effective Period: 7/1/2013 - 5/13/2014
Wage Rate per Hour: $39.75
Supplemental Benefit Rate per Hour: $21.23
First and Second Year "M" Wage Rate Per Hour - Hired on or before 5/10/07: $38.70
First and Second Year "M" Supplemental Rate- Hired on or before 5/10/07: $20.83
First and Second Year "M" Wage Rate Per Hour - Hired after 5/10/07: $33.00
First and Second Year "M" Supplemental Rate- Hired after 5/10/07: $18.68

Effective Period: 5/14/2014 - 6/30/2014
Wage Rate per Hour: $40.50
Supplemental Benefit Rate per Hour: $21.01
First and Second Year "M" Wage Rate Per Hour - Hired on or before 5/10/07: $39.45
First and Second Year "M" Supplemental Rate- Hired on or before 5/10/07: $21.61
First and Second Year "M" Wage Rate Per Hour - Hired after 5/10/07: $33.75
First and Second Year "M" Supplemental Rate- Hired after 5/10/07: $19.47

Overtime

Time and one half the regular rate after an 8 hour day.
Time and one half the regular rate for Saturday.
Time and one half the regular rate for Sunday.

Overtime Holidays

Time and one half the regular rate for work on the following holiday(s).
New Year's Day
Martin Luther King Jr. Day
President's Day
Memorial Day
Independence Day
Labor Day
Columbus Day
Veteran's Day
Thanksgiving Day
Day after Thanksgiving
Christmas Day

Paid Holidays

None

(Local #3)

ELECTRICIAN - ALARM TECHNICIAN
(Scope of Work - Inspect, test, repair, and replace defective, malfunctioning, or broken devices, components and controls of Fire, Burglar and Security Systems)

Alarm Technician

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $30.40
Supplemental Benefit Rate per Hour: $13.90
Supplemental Note: $12.40 only after 8 hours worked in a day

Overtime Description

Time and one half the regular rate for work on the following holidays: Columbus Day, Veterans Day, Day after Thanksgiving.
Double time the regular rate for work on the following holidays: New Year's day, Martin Luther King Jr. Day, President's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Christmas Day.

Overtime

Time and one half the regular rate after an 8 hour day.
Time and one half the regular rate for Saturday.
Double time the regular rate for Sunday.

Paid Holidays

New Year's Day
Martin Luther King Jr. Day
President's Day
Memorial Day
Independence Day
Labor Day
Columbus Day
Veteran's Day
Thanksgiving Day
Day after Thanksgiving
Christmas Day

Shift Rates

Night Differential is based upon a ten percent (10%) differential between the hours of 4:00 P.M. and 12:30 A.M. and a fifteen percent (15%) differential for the hours 12:00 A.M. to 8:00 A.M.

Vacation

At least 1 year of employment.....ten (10) days
5 years or more of employment.....fifteen (15) days
10 years of employment.....twenty (20) days
Plus one Personal Day per year

Sick Days:
One day per Year

(Local #3)

ELECTRICIAN-STREET LIGHTING WORKER

Electrician - Electro Pole Electrician

Effective Period: 7/1/2013 - 5/20/2014
Wage Rate per Hour: $52.00
Supplemental Benefit Rate per Hour: $47.90

Effective Period: 5/21/2014 - 6/30/2014
Wage Rate per Hour: $53.00
Supplemental Benefit Rate per Hour: $49.34

Electrician - Electro Pole Foundation Installer

Effective Period: 7/1/2013 - 5/20/2014
Wage Rate per Hour: $39.42
Supplemental Benefit Rate per Hour: $36.46

Effective Period: 5/21/2014 - 6/30/2014
Wage Rate per Hour: $40.18
Supplemental Benefit Rate per Hour: $37.73

Electrician - Electro Pole Maintainer

Effective Period: 7/1/2013 - 5/20/2014
Wage Rate per Hour: $33.75
Supplemental Benefit Rate per Hour: $32.83

Effective Period: 5/21/2014 - 6/30/2014
Wage Rate per Hour: $34.40
Supplemental Benefit Rate per Hour: $34.00

Overtime Description
Electrician - Electro Pole Electrician: Time and one half the regular rate after a 7 hour day and after 5 consecutive days worked per week.
Electrician - Electro Pole Foundation Installer: Time and one half the regular rate after 8 hours within a 24 hour period and Saturday and Sunday.
Electrician - Electro Pole Maintainer: Time and one half the regular rate after a 7 hour day and after 5 consecutive days worked per week. Saturdays and Sundays may be used as a make-up day at straight time when a day is lost during the week to inclement weather.

Overtime Holidays
Time and one half the regular rate for work on the following holiday(s).
New Year's Day
Martin Luther King Jr. Day
President's Day
Memorial Day
Independence Day
Labor Day
Columbus Day
Veteran's Day
Thanksgiving Day
Day after Thanksgiving
Christmas Day

Paid Holidays
None

(Local #3)

ELEVATOR CONSTRUCTOR

Elevator Constructor

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $57.01
Supplemental Benefit Rate per Hour: $34.48

Overtime Description
For New Construction: work performed after 7 or 8 hour day, Saturday, Sunday or between 4:30pm and 7:00am shall be paid at double time rate.

Existing buildings: work performed after an 8 hour day, Saturday, Sunday or between 5:30pm and 7:00 am shall be paid time and one half.

Overtime
Double time the regular rate for work on the following holiday(s).

Paid Holidays
New Year's Day
President's Day
Good Friday
Memorial Day
Independence Day
Labor Day
Columbus Day
Veteran's Day
Thanksgiving Day
Day after Thanksgiving
Christmas Day

Vacation
Employer contributes 8% of regular basic hourly rate as vacation pay for employees with more than 15 years of service, and 6% for employees with 5 to 15 years of service, and 4% for employees with less than 5 years of service.

(Local #1)

ELEVATOR REPAIR & MAINTENANCE

Elevator Service/Modernization Mechanic

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $45.14
Supplemental Benefit Rate per Hour: $33.02

Overtime Description
For Service Work: Double time - all work performed on Sundays, Holidays, and between midnight and 7:00am.

Overtime
Time and one half the regular rate after an 8 hour day.
Time and one half the regular rate for Saturday.
Time and one half the regular rate for Sunday.
Time and one half the regular rate for work on a holiday plus the day's pay.

Paid Holidays
New Year's Day
President's Day
Good Friday
Memorial Day
ıdependence Day
_abor Day

Columbus Day
Veteran's Day
Thanksgiving Day
Day after Thanksgiving
Christmas Day

Shift Rates

For Modernization Work (4pm to 12:30am) - regularly hourly rate plus a (15%) fifteen percent differential.

Vacation

Employer contributes 8% of regular basic hourly rate as vacation pay for employees with more than 15 years of service, and 6% for employees with 5 to 15 years of service, and 4% for employees with less than 5 years of service.

(Local #1)

ENGINEER

Engineer - Heavy Construction Operating Engineer I

Cherrypickers 20 tons and over and Loaders (rubber tired and/or tractor type with a manufacturer's minimum rated capacity of six cubic yards and over).

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $61.05
Supplemental Benefit Rate per Hour: $31.93
Supplemental Note: $57.46 on overtime
Shift Wage Rate: $97.68

Engineer - Heavy Construction Operating Engineer II

Backhoes, Basin Machines, Groover, Mechanical Sweepers, Bobcat, Boom Truck, Barrier Transport (Barrier Mover) & machines of similar nature. Operation of Churn Drills and machines of a similar nature, Stetco Silent Hoist and machines of similar nature, Vac-Alls, Meyers Machines, John Beam and machines of a similar nature, Ross Carriers and Travel Lifts and machines of a similar nature, Bulldozers, Scrapers and Turn-a-Pulls: Tugger Hoists (Used exclusively for handling excavated material); Tractors with attachments, Hyster and Roustabout Cranes, Cherrypickers. Austin Western, Grove and machines of a similar nature, Scoopmobiles, Monorails, Conveyors, Trenchers: Loaders-Rubber Tired and Tractor: Barber Greene and Eimco Loaders and Eimco Backhoes; Mighty Midget and similar breakers and Tampers, Curb and Gutter Pavers and Motor Patrol, Motor Graders and all machines of a similar nature. Locomotives 10 Tons or under. Mini-Max, Break-Tech and machines of a similar nature; Milling machines, robotic and demolition machines and machines of a similar nature, shot blaster, skid steer machines and machines of a similar nature including bobcat, pile rig rubber-tired excavator (37,000 lbs. and under), 2 man auger.

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $59.24
Supplemental Benefit Rate per Hour: $31.93
Supplemental Note: $57.46 on overtime
Shift Wage Rate: $94.78

Engineer - Heavy Construction Operating Engineer III

Minor Equipment such as Tractors, Post Hole Diggers, Ditch Witch (Walk Behind), Road Finishing Machines, Rollers five tons and under, Tugger Hoists, Dual Purpose Trucks, Fork Lifts, and Dempsey Dumpers, Fireperson.

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $56.22
Supplemental Benefit Rate per Hour: $31.93
Supplemental Note: $57.46 on overtime
Shift Wage Rate: $89.95

Engineer - Heavy Construction Maintenance Engineer I

Installing, Repairing, Maintaining, Dismantling and Manning of all equipment including Steel Cutting, Bending and Heat Sealing Machines, Mechanical Heaters, Grout Pumps, Bentonite Pumps & Plants, Screening Machines, Fusion Coupling Machines, Tunnel Boring Machines Moles and Machines of a similar nature, Power Packs, Mechanical Hydraulic Jacks; all drill rigs including but not limited to Churn, Rotary Caisson, Raised Bore & Drills of a similar nature; Personnel, Inspection & Safety Boats or any boats used to perform functions of same, Mine Hoists, Whirlies, all Climbing Cranes, all Tower Cranes, including but not limited to Truck Mounted and Crawler Type and machines of similar nature; Maintaining Hydraulic Drills and machines of a similar nature; Well Point System-Installation and dismantling; Burning, Welding, all Pumps regardless of size and/or motor power, except River Cofferdam Pumps and Wells Point Pumps; Motorized Buggies (three or more); equipment used in the cleaning and televising of sewers, but not limited to jet-rodder/vacuum truck, vacall/vactor, closed circuit television inspection equipment; high powered water pumps, jet pumps; screed machines and concrete finishing machines of a similar nature; vermeers.

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $58.97
Supplemental Benefit Rate per Hour: $31.93
Supplemental Note: $57.46 on overtime
Shift Wage Rate: $94.35

Engineer - Heavy Construction Maintenance Engineer II

On Base Mounted Tower Cranes

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $77.30
Supplemental Benefit Rate per Hour: $31.93
Supplemental Note: $57.46 on overtime
Shift Wage Rate: $123.68

Engineer - Heavy Construction Maintenance Engineer III

On Generators, Light Towers

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $39.10
Supplemental Benefit Rate per Hour: $31.93
Supplemental Note: $57.46 on overtime
Shift Wage Rate: $62.56

Engineer - Heavy Construction Maintenance Engineer IV

On Pumps and Mixers including mud sucking

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $40.11
Supplemental Benefit Rate per Hour: $31.93
Supplemental Note: $57.46 on overtime
Shift Wage Rate: $64.18

Engineer - Heavy Construction Oilers I

Gradalls, Cold Planer Grader, Concrete Pumps, Driving Truck Cranes, Driving and Operating Fuel and Grease Trucks.

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $53.22
Supplemental Benefit Rate per Hour: $31.93
Supplemental Note: $57.46 on overtime
Shift Wage Rate: $85.15

Engineer - Heavy Construction Oilers II

All gasoline, electric, diesel or air operated Shovels, Draglines, Backhoes, Keystones, Pavers, Gunite Machines, Battery of Compressors, Crawler Cranes, two-person Trenching Machines.

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $36.97
Supplemental Benefit Rate per Hour: $31.93
Supplemental Note: $57.46 on overtime
Shift Wage Rate: $59.15

Engineer - Steel Erection Maintenance Engineers

Derrick, Travelers, Tower, Crawler Tower and Climbing Cranes

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $57.05
Supplemental Benefit Rate per Hour: $31.93
Supplemental Note: $57.46 on overtime
Shift Wage Rate: $91.28

Engineer - Steel Erection Oiler I

On a Truck Crane

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $53.43
Supplemental Benefit Rate per Hour: $31.93
Supplemental Note: $57.46 on overtime
Shift Wage Rate: $85.49

Engineer - Steel Erection Oiler II

On a Crawler Crane

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $40.84
Supplemental Benefit Rate per Hour: $31.93
Supplemental Note: $57.46 on overtime
Shift Wage Rate: $65.34

Overtime Description
On jobs of more than one shift, if the next shift employee fails to report for work through any cause over which the employer has no control, the employee on duty who works the next shift continues to work at the single time rate.

Overtime
Double time the regular rate after an 8 hour day.
Double time the regular time rate for Saturday.
Double time the regular rate for Sunday.
Double time the regular rate for work on the following holiday(s).

Paid Holidays
New Year's Day
Lincoln's Birthday
President's Day
Memorial Day
Independence Day
Labor Day
Columbus Day
Veteran's Day
Thanksgiving Day
Day after Thanksgiving
Christmas Day
Employees must work at least one day in the payroll week in which the holiday occurs to receive the paid holiday

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Engineer - Building Work Maintenance Engineers I

Installing, repairing, maintaining, dismantling (of all equipment including: Steel Cutting and Bending Machines, Mechanical Heaters, Mine Hoists, Climbing Cranes, Tower Cranes, Linden Peine, Lorain, Liebherr, Mannes, or machines of a similar nature, Well Point Systems, Deep Well Pumps, Concrete Mixers with loading Device, Concrete Plants, Motor Generators when used for temporary power and lights), skid steer machines of a similar nature including bobcat.

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $54.04
Supplemental Benefit Rate per Hour: $31.93
Supplemental Note: $57.46 on overtime

Engineer - Building Work Maintenance Engineers II

On Pumps, Generators, Mixers and Heaters

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $42.10
Supplemental Benefit Rate per Hour: $31.93
Supplemental Note: $57.46 on overtime

Engineer - Building Work Oilers I

All gasoline, electric, diesel or air operated Gradealls: Concrete Pumps, Overhead Cranes in Power Houses: Their duties shall be to assist the Engineer in oiling, greasing and repairing of all machines; Driving Truck Cranes: Driving and Operating Fuel and Grease Trucks, Cherrypickers (hydraulic cranes) over 70,000 GVW, and machines of a similar nature.

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $51.40
Supplemental Benefit Rate per Hour: $31.93
Supplemental Note: $57.46 on overtime

Engineer - Building Work Oilers II

Oilers on Crawler Cranes, Backhoes, Trenching Machines, Gunite Machines, Compressors (three or more in Battery).

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $38.31
Supplemental Benefit Rate per Hour: $31.93
Supplemental Note: $57.46 on overtime

Overtime Description

On jobs of more than one shift, if an Employee fails to report for work through any cause over which the Employer has no control, the Employee on duty will continue to work at the rate of single time.

Overtime

Double time the regular rate after an 8 hour day.
Double time the regular time rate for Saturday.
Double time the regular rate for Sunday.
Double time the regular rate for work on the following holiday(s).

Paid Holidays

New Year's Day
Lincoln's Birthday
President's Day
Memorial Day
Independence Day
Labor Day
Columbus Day
Veteran's Day
Thanksgiving Day
Christmas Day

Employees must work at least one day in the payroll week in which the holiday occurs to receive the paid holiday

Shift Rates

Off Shift: double time the regular hourly rate.

(Local #15)

ENGINEER - CITY SURVEYOR AND CONSULTANT

Party Chief

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $35.55
Supplemental Benefit Rate per Hour: $17.65

Instrument Person

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $29.41
Supplemental Benefit Rate per Hour: $17.65

Rodperson

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $25.54
Supplemental Benefit Rate per Hour: $17.65

Overtime Description

Overtime Benefit Rate - $23.63 per hour (time & one half) $29.95 per hour (double time).
Time and one half the regular rate after an 8 hour day, Time and one half the regular rate for Saturday for the first eight hours worked, Double time the regular time rate for Saturday for work performed in excess of eight hours, Double time the regular rate for Sunday and Double time the regular rate for work on a holiday.

Paid Holidays

New Year's Day
Lincoln's Birthday
President's Day
Memorial Day
Independence Day
Labor Day
Columbus Day
Veteran's Day
Thanksgiving Day
Day after Thanksgiving
Christmas Day
Employees must work at least one day in the payroll week in which the holiday occurs to receive the paid holiday

(Operating Engineer Local #15-D)

ENGINEER - FIELD (BUILDING CONSTRUCTION)
(Construction of Building Projects, Concrete Superstructures, etc.)

Field Engineer - BC Party Chief

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $55.40
Supplemental Benefit Rate per Hour: $30.62
Supplemental Note: Overtime Benefit Rate - $42.73 per hour (time & one half) $54.84 per hour (double time).

Field Engineer - BC Instrument Person

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $43.10
Supplemental Benefit Rate per Hour: $30.62
Supplemental Note: Overtime Benefit Rate - $42.73 per hour (time & one half) $54.84 per hour (double time).

Field Engineer - BC Rodperson

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $27.96
Supplemental Benefit Rate per Hour: $30.62
Supplemental Note: Overtime Benefit Rate - $42.73 per hour (time & one half) $54.84 per hour (double time).

Overtime Description

Time and one half the regular rate after a 7 hour work and time and one half the regular rate for Saturday for the first seven hours worked, Double time the regular time rate for Saturday for work performed in excess of seven hours, Double time the regular rate for Sunday and Double time the regular rate for work on a holiday.

Paid Holidays

New Year's Day
President's Day
Good Friday
Memorial Day
Independence Day
Labor Day
Columbus Day
Veteran's Day
Thanksgiving Day
Christmas Day
Employees must work at least one day in the payroll week in which the holiday occurs to receive the paid holiday

(Operating Engineer Local #15-D)

ENGINEER - FIELD (HEAVY CONSTRUCTION)
(Construction of Roads, Tunnels, Bridges, Sewers, Building Foundations, Engineering Structures etc.)

Field Engineer - HC Party Chief

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $62.61
Supplemental Benefit Rate per Hour: $30.62
Supplemental Note: Overtime benefit rate - $42.73 per hour (time & one half), $54.84 per hour (double time).

Field Engineer - HC Instrument Person

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $46.00
Supplemental Benefit Rate per Hour: $30.62
Supplemental Note: Overtime benefit rate - $42.73 per hour (time & one half), $54.84 per hour (double time).

Field Engineer - HC Rodperson

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $38.61
Supplemental Benefit Rate per Hour: $30.62
Supplemental Note: Overtime benefit rate - $42.73 per hour (time & one half), $54.84 per hour (double time).

Overtime Description
Time and one half the regular rate after an 8 hour day, Time and one half the regular rate for Saturday for the first eight hours worked, Double time the regular time rate for Saturday for work performed in excess of eight hours, Double time the regular rate for Sunday and Double time the regular rate for work on a holiday.

Paid Holidays
New Year's Day
Lincoln's Birthday
President's Day
Memorial Day
Independence Day
Labor Day
Columbus Day
Veteran's Day
Thanksgiving Day
Christmas Day
Employees must work at least one day in the payroll week in which the holiday occurs to receive the paid holiday

(Operating Engineer Local #15-D)

ENGINEER - FIELD (STEEL ERECTION)

Field Engineer - Steel Erection Party Chief

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $58.50
Supplemental Benefit Rate per Hour: $30.62
Supplemental Note: Overtime benefit rate - $42.73 per hour (time & one half), $54.84 per hour (double time).

Field Engineer - Steel Erection Instrument Person

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $45.53
Supplemental Benefit Rate per Hour: $30.62
Supplemental Note: Overtime benefit rate - $42.73 per hour (time & one half), $54.84 per hour (double time).

Field Engineer - Steel Erection Rodperson

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $30.43
Supplemental Benefit Rate per Hour: $30.62
Supplemental Note: Overtime benefit rate - $42.73 per hour (time & one half), $54.84 per hour (double time).

Overtime Description
Time and one half the regular rate for Saturday for the first eight hours worked.
Double time the regular rate for Saturday for work performed in excess of eight hours.

Overtime
Time and one half the regular rate after an 8 hour day.
Double time the regular rate for Sunday.
Double time the regular rate for work on the following holiday(s).

Paid Holidays
New Year's Day
Lincoln's Birthday
President's Day
Memorial Day
Independence Day
Labor Day
Columbus Day
Veteran's Day
Thanksgiving Day
Christmas Day
Employees must work at least one day in the payroll week in which the holiday occurs to receive the paid holiday

(Operating Engineer Local #15-D)

ENGINEER - OPERATING

Operating Engineer - Road & Heavy Construction I

Back Filling Machines, Cranes, Mucking Machines and Dual Drum Paver.

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $67.70
Supplemental Benefit Rate per Hour: $28.60
Supplemental Note: $51.75 overtime hours
Shift Wage Rate: $108.32

Operating Engineer - Road & Heavy Construction II

Backhoes, Power Shovels, Hydraulic Clam Shells, Steel Erection, Moles and machines of a similar nature.

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $70.10
Supplemental Benefit Rate per Hour: $28.60
Supplemental Note: 51.75 overtime hours
Shift Wage Rate: $112.16

Operating Engineer - Road & Heavy Construction III

Mine Hoists, Cranes, etc. (Used as Mine Hoists)

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $72.34
Supplemental Benefit Rate per Hour: $28.60
Supplemental Note: $51.75 overtime hours
Shift Wage Rate: $115.74

Operating Engineer - Road & Heavy Construction IV

Gradealls, Keystones, Cranes on land or water (with digging buckets), Bridge Cranes, Vermeer Cutter and machines of a similar nature, Trenching Machines.

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $70.63
Supplemental Benefit Rate per Hour: $28.60
Supplemental Note: $51.75 overtime hours
Shift Wage Rate: $113.01

Operating Engineer - Road & Heavy Construction V

Pile Drivers & Rigs (employing Dock Builder foreperson): Derrick Boats, Tunnel Shovels.

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $69.23
Supplemental Benefit Rate per Hour: $28.60
Supplemental Note: $51.75 overtime hours
Shift Wage Rate: $110.77

Operating Engineer - Road & Heavy Construction VI

Mixers (Concrete with loading attachment), Concrete Pavers, Cableways, Land Derricks, Power Houses (Low Air Pressure Units).

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $65.76
Supplemental Benefit Rate per Hour: $28.60
Supplemental Note: $51.75 overtime hours
Shift Wage Rate: $105.22

Operating Engineer - Road & Heavy Construction VII

Barrier Movers , Barrier Transport and Machines of a Similar Nature.

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $53.08
Supplemental Benefit Rate per Hour: $28.60
Supplemental Note: $51.75 overtime hours
Shift Wage Rate: $84.93

Operating Engineer - Road & Heavy Construction VIII

Utility Compressors

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $41.18
Supplemental Benefit Rate per Hour: $28.60
Supplemental Note: $51.75 overtime hours
Shift Wage Rate: $51.93

Operating Engineer - Road & Heavy Construction IX

Horizontal Boring Rig

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $62.53
Supplemental Benefit Rate per Hour: $28.60
Supplemental Note: $51.75 overtime hours
Shift Wage Rate: $100.05

Operating Engineer - Road & Heavy Construction X

Elevators (manually operated as personnel hoist).

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $57.46
Supplemental Benefit Rate per Hour: $28.60
Supplemental Note: $51.75 overtime hours
Shift Wage Rate: $91.94

Operating Engineer - Road & Heavy Construction XI

Compressors (Portable 3 or more in battery), Driving of Truck Mounted Compressors, Well-point Pumps, Tugger Machines Well Point Pumps, Churn Drill.

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $44.63
Supplemental Benefit Rate per Hour: $28.60
Supplemental Note: $51.75 overtime hours
Shift Wage Rate: $71.41

Operating Engineer - Road & Heavy Construction XII

All Drills and Machines of a similar nature.

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $66.45
Supplemental Benefit Rate per Hour: $28.60
Supplemental Note: $51.75 overtime hours
Shift Wage Rate: $106.32

Operating Engineer - Road & Heavy Construction XIII

Concrete Pumps, Concrete Plant, Stone Crushers, Double Drum Hoist, Power Houses (other than above).

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $64.34
Supplemental Benefit Rate per Hour: $28.60
Supplemental Note: $51.75 overtime hours
Shift Wage Rate: $102.94

Operating Engineer - Road & Heavy Construction XIV

Concrete Mixer

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $61.53
Supplemental Benefit Rate per Hour: $28.60
Supplemental Note: $51.75 overtime hours
Shift Wage Rate: $98.45

Operating Engineer - Road & Heavy Construction XV

Compressors (Portable Single or two in Battery, not over 100 feet apart), Pumps (River Cofferdam) and Welding Machines, Push Button Machines, All Engines Irrespective of Power (Power-Pac) used to drive auxiliary equipment, Air, Hydraulic, etc.

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $41.44
Supplemental Benefit Rate per Hour: $28.60
Supplemental Note: $51.75 overtime hours
Shift Wage Rate: $66.30

Operating Engineer - Road & Heavy Construction XVI

Concrete Breaking Machines, Hoists (Single Drum), Load Masters, Locomotives (over ten tons) and Dinkies over ten tons, Hydraulic Crane-Second Engineer.

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $58.74
Supplemental Benefit Rate per Hour: $28.60
Supplemental Note: $51.85 overtime hours
Shift Wage Rate: $93.98

Operating Engineer - Road & Heavy Construction XVII

On-Site concrete plant engineer, On-site Asphalt Plant Engineer, and Vibratory console.

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $59.21
Supplemental Benefit Rate per Hour: $28.60
Supplemental Note: $51.75 overtime hours
Shift Wage Rate: $94.74

Operating Engineer - Road & Heavy Construction XVIII

Tower Crane

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $85.00
Supplemental Benefit Rate per Hour: $28.60
Supplemental Note: $51.75 overtime hours
Shift Wage Rate: $136.00

Operating Engineer - Paving I

Asphalt Spreaders, Autogrades (C.M.I.), Roto/Mil

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $65.76
Supplemental Benefit Rate per Hour: $28.60
Supplemental Note: $51.75 overtime hours
Shift Wage Rate: $105.22

Operating Engineer - Paving II

Asphalt Roller

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $64.04
Supplemental Benefit Rate per Hour: $28.60
Supplemental Note: $51.75 overtime hours
Shift Wage Rate: $102.46

Operating Engineer - Paving III

Asphalt Plants

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $54.17
Supplemental Benefit Rate per Hour: $28.60
Supplemental Note: $51.75 overtime hours
Shift Wage Rate: $86.67

Operating Engineer - Concrete I

Cranes

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $70.32
Supplemental Benefit Rate per Hour: $28.60
Supplemental Note: $51.75 overtime hours

Operating Engineer - Concrete II

Compressors

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $41.76
Supplemental Benefit Rate per Hour: $28.60
Supplemental Note: $51.75 overtime hours

Operating Engineer - Concrete III

Micro-traps (Negative Air Machines), Vac-All Remediation System.

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $56.16
Supplemental Benefit Rate per Hour: $28.60
Supplemental Note: $51.75 overtime hours

Operating Engineer - Steel Erection I

Three Drum Derricks

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $73.37
Supplemental Benefit Rate per Hour: $28.60
Supplemental Note: $51.75 overtime hours
Shift Wage Rate: $117.39

Operating Engineer - Steel Erection II

Cranes, 2 Drum Derricks, Hydraulic Cranes, Fork Lifts and Boom Trucks.

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $70.50
Supplemental Benefit Rate per Hour: $28.60
Supplemental Note: $51.75 overtime hours
Shift Wage Rate: $112.80

Operating Engineer - Steel Erection III

Compressors, Welding Machines.

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $41.84
Supplemental Benefit Rate per Hour: $28.60
Supplemental Note: $51.75 overtime hours
Shift Wage Rate: $66.94

Operating Engineer - Steel Erection IV

Compressors - Not Combined with Welding Machine.

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $39.85
Supplemental Benefit Rate per Hour: $28.60
Supplemental Note: $51.75 overtime hours
Shift Wage Rate: $63.76

Operating Engineer - Building Work I

Forklifts, Plaster (Platform machine), Plaster Bucket, Concrete Pump and all other equipment used for hoisting material.

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $57.82
Supplemental Benefit Rate per Hour: $28.60
Supplemental Note: $51.75 overtime hours

Operating Engineer - Building Work II

Compressors, Welding Machines (Cutting Concrete-Tank Work), Paint Spraying, Sandblasting, Pumps (with the exclusion of Concrete Pumps), All Engines irrespective of Power (Power-Pac) used to drive Auxiliary Equipment, Air, Hydraulic, Jacking System, etc.

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $43.28
Supplemental Benefit Rate per Hour: $28.60
Supplemental Note: $51.75 overtime hours

Operating Engineer - Building Work III

Double Drum

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $65.83
Supplemental Benefit Rate per Hour: $28.60
Supplemental Note: $51.75 overtime hours

Operating Engineer - Building Work IV

Stone Derrick, Cranes, Hydraulic Cranes Boom Trucks.

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $69.74
Supplemental Benefit Rate per Hour: $28.60
Supplemental Note: $51.75 overtime hours

Operating Engineer - Building Work V

Dismantling and Erection of Cranes, Relief Engineer.

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $64.26
Supplemental Benefit Rate per Hour: $28.60
Supplemental Note: $51.75 overtime hours

Operating Engineer - Building Work VI

4 Pole Hoist, Single Drum Hoists.

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $63.58
Supplemental Benefit Rate per Hour: $28.60
Supplemental Note: $51.75 overtime hours

Operating Engineer - Building Work VII

Rack & Pinion and House Cars

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $50.53
Supplemental Benefit Rate per Hour: $28.60
Supplemental Note: $51.75 overtime hours
For New House Car projects started after 7/1/11 only: Wage Rate per Hour $40.31

Overtime Description

On jobs of more than one shift, if an Employee fails to report for work through any cause over which the Employer has no control, the Employee on duty will continue to work at the rate of single time.

For House Cars and Rack & Pinion only: Overtime paid at time and one-half for all hours in excess of eight hours in a day, Saturday, Sunday and Holidays worked.

Overtime

Double time the regular rate after an 8 hour day.
Double time the regular time rate for Saturday.
Double time the regular rate for Sunday.
Double time the regular rate for work on the following holiday(s).

Paid Holidays

New Year's Day
Lincoln's Birthday
President's Day
Memorial Day
Independence Day
Labor Day
Columbus Day
Veteran's Day
Thanksgiving Day
Day after Thanksgiving
Christmas Day
Employees must work at least one day in the payroll week in which the holiday occurs to receive the paid holiday

Shift Rates

For Steel Erection Only: Shifts may be worked at the single time rate at other than the regular working hours (8:00 A.M. to 4:30 P.M.) on the following work ONLY: Heavy construction jobs on work below the street level, over railroad tracks and on building jobs.

(Operating Engineer Local #14)

FLOOR COVERER
(Interior vinyl composition tile, sheath vinyl linoleum and wood parquet tile including site preparation and synthetic turf not including site preparation)

Floor Coverer

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $46.15
Supplemental Benefit Rate per Hour: $38.50

Overtime

Time and one half the regular rate after an 8 hour day.
Time and one half the regular rate for Saturday.
Double time the regular rate for Sunday.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).
New Year's Day
President's Day
Memorial Day
Independence Day
Labor Day

Columbus Day
Presidential Election Day
Thanksgiving Day
Day after Thanksgiving
Christmas Day

Paid Holidays

1/2 day on Christmas Eve if work is performed in the A.M.
1/2 day on New Year's Eve if work is performed in the A.M.

Shift Rates

Two shifts may be utilized with the first shift working 8:00 A.M. to the end of the shift at the straight time of pay. The second shift will receive one hour at double time rate for the last hour of the shift. (eight for seven, nine for eight).

(Carpenters District Council)

GLAZIER
(New Construction, Remodeling, and Alteration)

Glazier

Effective Period: 7/1/2013 - 10/31/2013
Wage Rate per Hour: $42.00
Supplemental Benefit Rate per Hour: $33.24
Supplemental Note: Supplemental Benefit Overtime Rate: $41.24

Effective Period: 11/1/2013 - 6/30/2014
Wage Rate per Hour: $42.00
Supplemental Benefit Rate per Hour: $34.09
Supplemental Note: Supplemental Benefit Overtime Rate: $42.59

Overtime Description

An optional 8th hour can be worked at straight time rate. If 9th hour is worked, then both hours or more (8th & 9th or more) will be at the double time rate of pay.

Overtime

Double time the regular rate after a 7 hour day.
Double time the regular time rate for Saturday.
Double time the regular rate for Sunday.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).
New Year's Day
President's Day
Memorial Day
Independence Day
Labor Day

Thanksgiving Day
Day after Thanksgiving
Christmas Day

Paid Holidays
None

Shift Rates
Shifts shall be any 7 hours beyond 4:00 P.M. for which the glazier shall receive 8 hours pay for 7 hours worked.

(Local #1281)

GLAZIER - REPAIR & MAINTENANCE
(For the Installation of Glass - All repair and maintenance work on a particular building, whenever performed, where the total cumulative contract value is under $105,000. Except where enumerated (i.e. plate glass windows) does not apply to non-residential buildings.)

Craft Jurisdiction for repair, maintenance and fabrication

Plate glass replacement, Residential glass replacement, Residential mirrors and shower doors, Storm windows and storm doors, Residential replacement windows, Herculite door repairs, Door closer repairs, Retrofit apartment house (non commercial buildings), Glass tinting.

Effective Period: 7/1/2013 - 4/30/2014
Wage Rate per Hour: $23.50
Supplemental Benefit Rate per Hour: $18.54

Effective Period: 5/1/2014 - 6/30/2014
Wage Rate per Hour: $23.60
Supplemental Benefit Rate per Hour: $19.04

Overtime
Time and one half the regular rate after an 8 hour day.
Double time the regular rate for Sunday.
Time and one half the regular hourly rate after 40 hours in any work week.

Paid Holidays
New Year's Day
President's Day
Memorial Day
Independence Day
Labor Day
Thanksgiving Day
Day after Thanksgiving
Christmas Day

(Local #1281)

HEAT AND FROST INSULATOR

Heat & Frost Insulator

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $56.48
Supplemental Benefit Rate per Hour: $33.31

Overtime Description
Double time shall be paid for supplemental benefits during overtime work.
8th hour paid at time and one half.

Overtime
Double time the regular rate after an 8 hour day.
Double time the regular time rate for Saturday.
Double time the regular rate for Sunday.

Overtime Holidays
Double time the regular rate for work on the following holiday(s).
New Year's Day
Martin Luther King Jr. Day
President's Day
Memorial Day
Independence Day
Columbus Day
Veteran's Day
Thanksgiving Day
Day after Thanksgiving
Christmas Day

Triple time the regular rate for work on the following holiday(s).
Labor Day

Paid Holidays
None

Shift Rates
The first shift shall work seven hours at the regular straight time rate. The second and third shift shall work seven hours the regular straight time hourly rate plus a fourteen percent wage and benefit premium.
Off hour work in occupied or retail buildings may be worked on weekdays with an increment of $1.00 per hour and eight hours pay for seven (7) hours worked. Double time will apply for over seven (7) hours worked on weekdays, weekends or holidays.

(Local #12)

HOUSE WRECKER
(TOTAL DEMOLITION)

House Wrecker - Tier A

On all work sites the first, second, eleventh and every third House Wrecker thereafter shall be Tier A House Wreckers (i.e. 1st, 2nd, 11th, 14th etc). The 10th and 20th House Wrecker shall be apprentices. Other House Wreckers shall be Tier B House Wreckers.

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $34.01
Supplemental Benefit Rate per Hour: $25.14

House Wrecker - Tier B

On all work sites the first, second, eleventh and every third House Wrecker thereafter shall be Tier A House Wreckers (i.e. 1st, 2nd, 11th, 14th etc). The 10th and 20th House Wrecker shall be apprentices. Other House Wreckers shall be Tier B House Wreckers.

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $23.75
Supplemental Benefit Rate per Hour: $18.62

Overtime
Time and one half the regular rate after an 8 hour day.
Time and one half the regular rate for Saturday.
Double time the regular rate for Sunday.

Overtime Holidays
Double time the regular rate for work on the following holiday(s).
New Year's Day
President's Day
Memorial Day
Independence Day
Labor Day
Thanksgiving Day
Christmas Day

Paid Holidays
None

(Mason Tenders District Council)

IRON WORKER - ORNAMENTAL

Iron Worker - Ornamental

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $42.30
Supplemental Benefit Rate per Hour: $43.54
Supplemental Note: Supplemental benefits are to be paid at the applicable overtime rate when overtime is in effect.

Overtime Description
Time and one half the regular rate after a 7 hour day for a maximum of two hours on any regular work day (the 8th and 9th hour) and double time shall be paid for all work on a regular work day thereafter, time and one half the regular rate for Saturday for the first seven hours of work and double time shall be paid for all work on a Saturday thereafter.

Overtime
Double time the regular rate for Sunday.

Overtime Holidays
Double time the regular rate for work on the following holiday(s).
New Year's Day
President's Day
Memorial Day
Independence Day
Labor Day
Thanksgiving Day
Christmas Day

Paid Holidays
None

Shift Rates
For off shift work - 8 hours pay for 7 hours of work. When two or three shifts are employed on a job, Monday through Friday, the workday for each shift shall be seven hours and paid for ten and one-half hours at the single time rate. When two or three shifts are worked on Saturday, Sunday or holidays, each shift shall be seven hours and paid fifteen and three-quarters hours.

(Local #580)

IRON WORKER - STRUCTURAL

Iron Worker - Structural

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $46.75
Supplemental Benefit Rate per Hour: $62.48
Supplemental Note: Supplemental benefits are to be paid at the applicable overtime rate when overtime is in effect.

)vertime Description

Monday through Friday- the first eight hours are paid at straight time, the 9th and 10th hours are paid at time and one-half the regular rate, all additional weekday overtime is paid at double the regular rate. Saturdays- the first eight hours are paid at time and one-half the regular rate, double time thereafter. Sunday-all shifts are paid at double time.

Overtime
Time and one half the regular rate after an 8 hour day.
Time and one half the regular rate for Saturday.
Double time the regular rate for Sunday.

Overtime Holidays
Double time the regular rate for work on the following holiday(s).
New Year's Day
Good Friday
Memorial Day
Independence Day
Labor Day
Thanksgiving Day
Christmas Day

Paid Holidays
1/2 day on Christmas Eve if work is performed in the A.M.
1/2 day on New Year's Eve if work is performed in the A.M.

Shift Rates
Monday through Friday - First Shift: First eight hours are paid at straight time, the 9th & 10th hours are paid at time and a half, double time paid thereafter. Second and third Shifts: First eight hours are paid at time and one-half, double time thereafter. Saturdays: All shifts, first eight hours paid at time and one-half, double time thereafter: Sunday all shifts are paid at double time.

(Local #40 & #361)

LABORER
(Foundation, Concrete, Excavating, Street Pipe Layer and Common)

Laborer

Excavation and foundation work for buildings, heavy construction, engineering work, and hazardous waste removal in connection with the above work. Landscaping tasks in connection with heavy construction work, engineering work and building projects. Projects include, but are not limited to pollution plants, sewers, parks, subways, bridges, highways, etc.

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $39.25
Supplemental Benefit Rate per Hour: $33.25

Overtime
Time and one half the regular rate after an 8 hour day.

Time and one half the regular rate for Saturday.
Double time the regular rate for Sunday.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).
New Year's Day
Memorial Day
Independence Day
Labor Day
Columbus Day
Presidential Election Day
Thanksgiving Day
Christmas Day

Paid Holidays

Labor Day
Thanksgiving Day

Shift Rates

When two shifts are employed, single time rate shall be paid for each shift. When three shifts are found necessary, each shift shall work seven and one half hours (7 ½), but shall be paid for eight (8) hours of labor, and be permitted one half hour for lunch.

(Local #731)

LANDSCAPING

(Landscaping tasks, as well as tree pruning, tree removing, spraying and maintenance in connection with the planting of street trees and the planting of trees in city parks but not when such activities are performed as part of, or in connection with, other construction or reconstruction projects.)

Landscaper (Above 6 years experience)

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $24.25
Supplemental Benefit Rate per Hour: $12.30

Landscaper (3 - 6 years experience)

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $23.25
Supplemental Benefit Rate per Hour: $12.30

Landscaper (up to 3 years experience)

Effective Period: 7/1/2013 - 6/30/2014

Wage Rate per Hour: $20.75
Supplemental Benefit Rate per Hour: $12.30

Groundperson

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $20.75
Supplemental Benefit Rate per Hour: $12.30

Tree Remover / Pruner

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $29.25
Supplemental Benefit Rate per Hour: $12.30

Landscaper Sprayer (Pesticide Applicator)

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $19.25
Supplemental Benefit Rate per Hour: $12.30

Watering - Plant Maintainer

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $14.25
Supplemental Benefit Rate per Hour: $12.30

Overtime Description

For all overtime work performed, supplemental benefits shall include an additional seventy-five ($0.75) cents per hour.

Overtime

Time and one half the regular rate after an 8 hour day.
Time and one half the regular rate for Saturday.
Double time the regular rate for Sunday.
Time and one half the regular rate for work on a holiday plus the day's pay.

Paid Holidays

New Year's Day
Memorial Day
Independence Day
Labor Day
Thanksgiving Day
Christmas Day

Shift Rates

Work performed on a 4pm to 12am shift has a 15% differential. Work performed on a 12am to 8am shift has a 20% differential.

(Local #175)

MARBLE MECHANIC

Marble Setter

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $49.19
Supplemental Benefit Rate per Hour: $32.24

Marble Finisher

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $39.05
Supplemental Benefit Rate per Hour: $31.43

Marble Polisher

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $34.73
Supplemental Benefit Rate per Hour: $24.60

Overtime Description

Supplemental Benefit contributions are to be made at the applicable overtime rates. Time and one half the regular rate after a 7 hour day or time and one half the regular rate after an 8 hour day - chosen by Employer at the start of the project and then would last for the full duration of the project.

Overtime

Time and one half the regular rate for Saturday.
Double time the regular rate for Sunday.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).
New Year's Day
President's Day
Good Friday
Memorial Day
Independence Day
Labor Day
Columbus Day
Veteran's Day
Thanksgiving Day
Day after Thanksgiving
Christmas Day

Paid Holidays

None

Local #7)

MASON TENDER

Mason Tender

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $35.00
Supplemental Benefit Rate per Hour: $25.74

Overtime
Time and one half the regular rate after an 8 hour day.
Time and one half the regular rate for Saturday.
Double time the regular rate for Sunday.
Saturday may be used as a make-up day at straight time when a day is lost during that week to inclement weather.

Overtime Holidays
Double time the regular rate for work on the following holiday(s).
New Year's Day
President's Day
Memorial Day
Independence Day
Labor Day
Thanksgiving Day
Christmas Day

Paid Holidays
None

Shift Rates
The Employer may work two (2) shifts with the first shift at the straight time wage rate and the second shift receiving eight (8) hours paid for seven (7) hours work at the straight time wage rate.

(Local #79)

MASON TENDER (INTERIOR DEMOLITION WORKER)
(The erection, building, moving, servicing and dismantling of enclosures, scaffolding, barricades, protection and site safety structures etc., on Interior Demolition jobs.)

Mason Tender Tier A

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $34.07

Supplemental Benefit Rate per Hour: $19.77

Mason Tender Tier B

On Interior Demolition job sites 33 1/3 % of the employees shall be classified as Tier A Interior Demolition Workers and 66 2/3 % shall be classified as Tier B Interior Demolition Workers; provided that the employer may employ more than 33 1/3 % Tier A Interior Demolition Workers on the job site. Where the number of employees on a job site is not divisible by 3, the first additional employee (above the number of employees divisible by three) shall be a Tier B Interior Demolition Worker, and the second additional employee shall be a Tier A Interior Demolition Worker.

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $23.27
Supplemental Benefit Rate per Hour: $14.08

Overtime
Time and one half the regular rate after an 8 hour day.
Time and one half the regular rate for Sunday.

Overtime Holidays
Double time the regular rate for work on the following holiday(s).
New Year's Day
President's Day
Memorial Day
Independence Day
Labor Day
Thanksgiving Day
Christmas Day

Paid Holidays
None

(Local #79)

METALLIC LATHER

Metallic Lather

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $41.43
Supplemental Benefit Rate per Hour: $40.15
Supplemental Note: Supplemental benefits for overtime are paid at the appropriate overtime rate.

Overtime Description
Overtime would be time and one half the regular rate after a seven (7) or eight (8) hours workday, which would be set at the start of the job.

Overtime

Time and one half the regular rate for Saturday.
Double time the regular rate for Sunday.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).
New Year's Day
Washington's Birthday
Good Friday
Memorial Day
Independence Day
Labor Day
Columbus Day
Presidential Election Day
Thanksgiving Day
Christmas Day

Paid Holidays

1/2 day on Christmas Eve if work is performed in the A.M.
1/2 day on New Year's Eve if work is performed in the A.M.

Shift Rates

There shall be either two (2) or three (3) shifts, each shift shall be eight (8) hours with nine (9) hours pay, including one half (½) hour for lunch. Off-Hour Start shall commence after 3:30 P.M. and shall conclude by 6:00 A.M. The first consecutive seven (7) hours shall be at straight time with a differential of twelve dollars ($12.00) per hour. Fringes shall be paid at the straight time rate.

(Local #46)

MILLWRIGHT

Millwright

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $47.69
Supplemental Benefit Rate per Hour: $48.87

Overtime

Time and one half the regular rate after an 8 hour day.
Time and one half the regular rate for Saturday.
Double time the regular rate for Sunday.
Saturday may be used as a make-up day at straight time when a day is lost during that week to inclement weather.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).
New Year's Day
President's Day
Good Friday
Memorial Day
Independence Day

Labor Day
Columbus Day
Presidential Election Day
Thanksgiving Day
Christmas Day

Paid Holidays

1/2 day on Christmas Eve if work is performed in the A.M.
1/2 day on New Year's Eve if work is performed in the A.M.

Shift Rates

The first shift shall receive the straight time rate of pay. The second shift receives the straight time rate of pay plus fifteen (15%) per cent. Members of the second shift shall be allowed one half hour to eat, with this time being included in the hours of the workday established. There must be a first shift to work a second shift. All additional hours worked shall be paid at the time and one-half rate of pay plus fifteen (15%) per cent for weekday hours.

(Local #740)

MOSAIC MECHANIC

Mosaic Mechanic - Mosaic & Terrazzo Mechanic

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $44.39
Supplemental Benefit Rate per Hour: $35.11
Supplemental Note: Supplemental benefits for overtime to be paid at the rate of $46.08 per hour.

Mosaic Mechanic - Mosaic & Terrazzo Finisher

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $42.78
Supplemental Benefit Rate per Hour: $35.11
Supplemental Note: Supplemental benefits for overtime to be paid at the rate of $46.08 per hour.

Mosaic Mechanic - Machine Operator Grinder

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $42.78
Supplemental Benefit Rate per Hour: $35.11
Supplemental Note: Supplemental benefits for overtime to be paid at the rate of $46.08 per hour.

Overtime

Time and one half the regular rate after a 7 hour day.
Time and one half the regular rate for Saturday.
Double time the regular rate for Sunday.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).
New Year's Day
Washington's Birthday
Good Friday
Independence Day
Labor Day
Columbus Day
Veteran's Day
Thanksgiving Day
Day after Thanksgiving
Christmas Day

Paid Holidays
None

(Local #7)

PAINTER

Painter - Brush & Roller

Effective Period: 7/1/2013 - 4/30/2014
Wage Rate per Hour: $37.50
Supplemental Benefit Rate per Hour: $25.62
Supplemental Note: $30.25 on overtime

Effective Period: 5/1/2014 - 6/30/2014
Wage Rate per Hour: $39.50
Supplemental Benefit Rate per Hour: $26.12
Supplemental Note: $30.75 on overtime

Spray & Scaffold / Decorative / Sandblast

Effective Period: 7/1/2013 - 4/30/2014
Wage Rate per Hour: $40.50
Supplemental Benefit Rate per Hour: $25.62
Supplemental Note: $30.25 on overtime

Effective Period: 5/1/2014 - 6/30/2014
Wage Rate per Hour: $42.50
Supplemental Benefit Rate per Hour: $26.12
Supplemental Note: $30.75 on overtime

Overtime
Time and one half the regular rate after a 7 hour day.
Time and one half the regular rate for Saturday.
Time and one half the regular rate for Sunday.

Overtime Holidays

Time and one half the regular rate for work on the following holiday(s).
New Year's Day
President's Day
Memorial Day
Independence Day
Labor Day
Columbus Day
Thanksgiving Day
Christmas Day

Paid Holidays
None

(District Council of Painters #9)

PAINTER - SIGN

Designer

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $36.15
Supplemental Benefit Rate per Hour: $9.66

Journeyperson

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $33.62
Supplemental Benefit Rate per Hour: $9.66

Overtime
Time and one half the regular rate after an 8 hour day.
Time and one half the regular rate for Saturday.
Time and one half the regular rate for Sunday.
Double time the regular rate for work on the following holiday(s).

Paid Holidays
New Year's Day
President's Day
Memorial Day
Independence Day
Labor Day
Columbus Day
Election Day
Thanksgiving Day
Day after Thanksgiving
Christmas Day

Shift Rates

All work performed outside the regular 8 hour work day (either 7:00 A.M to 3:30 P.M or 8:00 A.M. to 4:30 P.M) shall be paid at time and one half the regular hourly rate.

(Local #8A-28A)

PAINTER - STRIPER

Striper (paint)

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $33.00
Supplemental Benefit Rate per Hour: $11.62
Supplemental Note: Overtime Supplemental Benefit rate - $7.42; New Hire Rate (0-3 months) - $0.00

Lineperson (thermoplastic)

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $37.00
Supplemental Benefit Rate per Hour: $11.62
Supplemental Note: Overtime Supplemental Benefit rate - $7.42; New Hire Rate (0-3 months) - $0.00

Overtime

Time and one half the regular rate after an 8 hour day.
Time and one half the regular rate for Saturday.
Double time the regular rate for Sunday.
Time and one half the regular rate for work on the following holiday(s).

Paid Holidays

New Year's Day
Good Friday
Memorial Day
Independence Day
Labor Day
Columbus Day
Presidential Election Day
Thanksgiving Day
Day after Thanksgiving
Christmas Day

Shift Rates

Employees hired before April 1, 2003: 15% night shift premium differential for work commenced at 9:00 PM or later.

Vacation

Employees with one to two years service shall accrue vacation based on hours worked: 250 hours worked - 1 day vacation; 500 hours worked - 2 days vacation; 750 hours worked - 3 days vacation; 900 hours worked - 4 days vacation; 1,000 hours worked - 5 days vacation. Employees with two to five years service receive two weeks vacation. Employees with five to twenty years service receive three weeks vacation. Employees with twenty to twenty-five years service receive four weeks vacation. Employees with 25 or more years service

receive five weeks vacation. Vacation must be taken during winter months. 2 Personal Days except employees hired after 4/1/12 who do not have 2 years of service.

(Local #917)

PAINTER - STRUCTURAL STEEL

Painters on Structural Steel

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $47.00
Supplemental Benefit Rate per Hour: $32.08

Painter - Power Tool

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $53.00
Supplemental Benefit Rate per Hour: $32.08

Overtime
Time and one half the regular rate after a 7 hour day.
Time and one half the regular rate for Saturday.
Time and one half the regular rate for Sunday.

Overtime Holidays
Double time the regular rate for work on the following holiday(s).
New Year's Day
Memorial Day
Independence Day
Labor Day
Thanksgiving Day
Christmas Day

Paid Holidays
None

Shift Rates
Regular hourly rates plus a ten per cent (10%) differential

(Local #806)

PAPERHANGER

Paperhanger

Effective Period: 7/1/2013 - 4/30/2014

Wage Rate per Hour: $39.00
Supplemental Benefit Rate per Hour: $29.23
Supplemental Note: Supplemental benefits are to be paid at the appropriate straight time and overtime rate.

Effective Period: 5/1/2014 - 6/30/2014
Wage Rate per Hour: $41.08
Supplemental Benefit Rate per Hour: $29.23
Supplemental Note: Supplemental benefits are to be paid at the appropriate straight time and overtime rate.

Overtime
Time and one half the regular rate after a 7 hour day.
Time and one half the regular rate for Saturday.
Time and one half the regular rate for Sunday.

Overtime Holidays
Time and one half the regular rate for work on the following holiday(s).
New Year's Day
President's Day
Memorial Day
Independence Day
Labor Day
Thanksgiving Day
Day after Thanksgiving
Christmas Day

Paid Holidays
None

Shift Rates
Evening shift - 4:30 P.M. to 12:00 Midnight (regular rate of pay); any work performed before 7:00 A.M. shall be at time and one half the regular base rate of pay.

(District Council of Painters #9)

PAVER AND ROADBUILDER

Paver & Roadbuilder - Formsetter

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $43.54
Supplemental Benefit Rate per Hour: $33.55

Paver & Roadbuilder - Laborer

Paving and road construction work, regardless of material used, including but not limited to preparation of job sites, removal of old surfaces, asphalt and/or concrete, by whatever method, including but not limited to milling; laying of concrete; laying of asphalt for temporary, patchwork, and utility paving (but not production paving); site preparation and incidental work before the installation of rubberized materials and similar surfaces; installation

and repair of temporary construction fencing; slurry seal coating, maintenance of safety surfaces; play equipment installation, and other related work.

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $39.67
Supplemental Benefit Rate per Hour: $33.55

Production Paver & Roadbuilder - Screed Person

(Production paving is asphalt paving when using a paving machine or on a project where a paving machine is traditionally used)

Adjustment of paving machinery on production paving jobs.

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $45.12
Supplemental Benefit Rate per Hour: $33.55

Production Paver & Roadbuilder - Raker

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $44.61
Supplemental Benefit Rate per Hour: $33.55

Production Paver & Roadbuilder - Shoveler

General laborer (except removal of surfaces - see Paver and Roadbuilder-Laborer) including but not limited to tamper, AC paint and liquid tar work.

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $41.32
Supplemental Benefit Rate per Hour: $33.55

Overtime Description

Veteran's Day is a Paid Holiday for employees working on production paving.

If an employee works New Year's Day or Christmas Day, they receive the single time rate plus 25%.

Employees who work on a holiday listed below receive the straight time rate plus one day's pay for the holiday.

Overtime

Time and one half the regular rate after an 8 hour day.
Time and one half the regular rate for Saturday.
Double time the regular rate for Sunday.

Paid Holidays

Memorial Day
Independence Day
Labor Day
Presidential Election Day
Thanksgiving Day

Shift Rates

When two shifts are employed, the work period for each shift shall be a continuous eight (8) hours. When three shifts are employed, each shift will work seven and one half (7 ½) hours but will be paid for eight (8) hours since only one half (1/2) hour is allowed for meal time.
When two or more shifts are employed, single time will be paid for each shift.

Night Work - On night work, the first eight (8) hours of work will be paid for at the single time rate, except that production paving work shall be paid at 20% over the single time rate for the screed person, rakers and shovelers directly involved only. All other workers will be exempt. Hours worked over eight (8) hours during said shift shall be paid for at the time and one-half rate.

(Local #1010)

PLASTERER

Plasterer

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $41.13
Supplemental Benefit Rate per Hour: $24.95

Overtime

Time and one half the regular rate after a 7 hour day.
Time and one half the regular rate for Saturday.
Double time the regular rate for Sunday.
Saturday may be used as a make-up day at straight time when a day is lost during that week to inclement weather.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).
New Year's Day
Martin Luther King Jr. Day
President's Day
Good Friday
Memorial Day
Independence Day
Labor Day
Columbus Day
Presidential Election Day
Thanksgiving Day
Christmas Day

Paid Holidays

None

Shift Rates

When it is not possible to conduct alteration work during regular work hours, in a building occupied by tenants, said work shall proceed on a shift basis: however work over seven (7) hours in any twenty four (24) hour period, the time after seven (7) hours shall be considered overtime.

The second shift shall start at a time between 3:30 p.m. and 7:00 p.m. and shall consist of seven (7) working hours and shall receive eight (8) hours of wages and benefits at the straight time rate. The workers on the second shift shall be allowed one-half (½) hour to eat with this time being included in the seven (7) hours of work.

(Local #530)

PLASTERER - TENDER

Plasterer - Tender

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $35.00
Supplemental Benefit Rate per Hour: $25.74

Overtime
Time and one half the regular rate after an 8 hour day.
Time and one half the regular rate for Saturday.
Double time the regular rate for Sunday.
Saturday may be used as a make-up day at straight time when a day is lost during that week to inclement weather.

Overtime Holidays
Double time the regular rate for work on the following holiday(s).
New Year's Day
Washington's Birthday
Memorial Day
Independence Day
Labor Day
Presidential Election Day
Thanksgiving Day
Christmas Day

Paid Holidays
None

Shift Rates
When work commences outside regular work hours, workers receive an hour additional (differential) wage and supplement payment. Eight hours pay for seven hours work or nine hours pay for eight hours work.

(Mason Tenders District Council)

PLUMBER

Plumber

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $51.76
Supplemental Benefit Rate per Hour: $37.19
Supplemental Note: Overtime supplemental benefit rate per hour: $74.10

Overtime Description

Double time the regular rate after a 7 hour day - unless for new construction site work where the plumbing contract price is $1.5 million or less, the hours of labor can be 8 hours per day at the employers option. On Alteration jobs when other mechanical trades at the site are working an eighth hour at straight time, then the plumber shall also work an eighth hour at straight time.

Overtime

Double time the regular time rate for Saturday.
Double time the regular rate for Sunday.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).
New Year's Day
President's Day
Memorial Day
Independence Day
Labor Day
Columbus Day
Veteran's Day
Thanksgiving Day
Day after Thanksgiving
Christmas Day

Shift Rates

Shift work, when directly specified in public agency or authority documents where plumbing contract is $8 million or less, will be permitted. 30% shift premium shall be paid for wages and fringe benefits for 4:00 pm and midnight shifts Monday to Friday. 50% shift premium shall be paid for wages and fringe benefits for 4:00 pm and midnight shift work performed on weekends. For shift work on holidays, double time wages and fringe benefits shall be paid.

(Plumbers Local #1)

PLUMBER (MECHNICAL EQUIPMENT AND SERVICE)
(Mechanical Equipment and Service work shall include any repair and/or replacement of the present plumbing system.)

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $33.46
Supplemental Benefit Rate per Hour: $16.93

Overtime

Time and one half the regular rate after an 8 hour day.
Time and one half the regular rate for Saturday.

Time and one half the regular rate for Sunday.

Overtime Holidays

Time and one half the regular rate for work on the following holiday(s).
New Year's Day
President's Day
Memorial Day
Independence Day
Thanksgiving Day
Day after Thanksgiving
Christmas Day

Paid Holidays

None

(Plumbers Local # 1)

PLUMBER (RESIDENTIAL RATES FOR 1, 2 AND 3 FAMILY HOME CONSTRUCTION)

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $37.11
Supplemental Benefit Rate per Hour: $25.56

Overtime

Double time the regular rate after an 8 hour day.
Double time the regular time rate for Saturday.
Double time the regular rate for Sunday.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).
New Year's Day
President's Day
Memorial Day
Independence Day
Labor Day
Columbus Day
Veteran's Day
Thanksgiving Day
Day after Thanksgiving
Christmas Day

Paid Holidays

None

Shift Rates

30% shift premium shall be paid for wages and fringe benefits for 4:00 pm and midnight shifts Monday to Friday.
0% shift premium shall be paid for wages and fringe benefits for 4:00 pm and midnight shift work performed on Weekends. For shift work on holidays, double time wages and fringe benefits shall be paid.

(Plumbers Local #1)

PLUMBER: PUMP & TANK
(Installation and Maintenance)

Plumber - Pump & Tank

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $53.01
Supplemental Benefit Rate per Hour: $31.86

Overtime
Time and one half the regular rate after an 8 hour day.
Time and one half the regular rate for Saturday.
Time and one half the regular rate for Sunday.

Overtime Holidays
Time and one half the regular rate for work on the following holiday(s).
New Year's Day
President's Day
Memorial Day
Independence Day
Labor Day
Columbus Day
Veteran's Day
Thanksgiving Day
Day after Thanksgiving
Christmas Day

Paid Holidays
None

Shift Rates
All work outside the regular workday (8:00 A.M. to 3:30 P.M.) is to be paid at time and one half the regular hourly rate

(Plumbers Local #1)

POINTER - WATERPROOFER, CAULKER MECHANIC (EXTERIOR BUILDING RENOVATION)

Pointer - Waterproofer, Caulker Mechanic

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $45.41
Supplemental Benefit Rate per Hour: $23.29

Overtime
Time and one half the regular rate after an 8 hour day.
Time and one half the regular rate for Saturday.
Time and one half the regular rate for Sunday.
Saturday may be used as a make-up day at straight time when a day is lost during that week to inclement weather.

Overtime Holidays
Time and one half the regular rate for work on the following holiday(s).
New Year's Day
Martin Luther King Jr. Day
President's Day
Memorial Day
Independence Day
Labor Day
Thanksgiving Day
Christmas Day

Paid Holidays
None

Shift Rates
All work outside the regular work day (an eight hour workday between the hours of 6:00 A.M. and 4:30 P.M.) is to be paid at time and one half the regular rate.

(Bricklayer District Council)

ROOFER

Roofer

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $39.00
Supplemental Benefit Rate per Hour: $27.37

Overtime
Time and one half the regular rate after an 8 hour day.
Time and one half the regular rate for Saturday.
Time and one half the regular rate for Sunday.

Overtime Holidays
Time and one half the regular rate for work on the following holiday(s).
New Year's Day
resident's Day
Memorial Day

Independence Day
Labor Day
Presidential Election Day
Thanksgiving Day
Christmas Day

Paid Holidays
None

Shift Rates
Second shift - Regular hourly rate plus a 10% differential. Third shift - Regular hourly rate plus a 15% differential.

(Local #8)

SANDBLASTER - STEAMBLASTER
(Exterior Building Renovation)

Sandblaster / Steamblaster

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $45.41
Supplemental Benefit Rate per Hour: $23.29

Overtime
Time and one half the regular rate after an 8 hour day.
Time and one half the regular rate for Saturday.
Time and one half the regular rate for Sunday.
Saturday may be used as a make-up day at straight time when a day is lost during that week to inclement weather.

Overtime Holidays
Time and one half the regular rate for work on the following holiday(s).
New Year's Day
Martin Luther King Jr. Day
President's Day
Memorial Day
Independence Day
Labor Day
Thanksgiving Day
Christmas Day

Paid Holidays
None

Shift Rates
All work outside the regular work day (an eight hour workday between the hours of 6:00 A.M. and 4:30 P.M.) is to be paid at time and one half the regular rate.

(Bricklayer District Council)

SHEET METAL WORKER

Sheet Metal Worker

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $45.96
Supplemental Benefit Rate per Hour: $43.19
Supplemental Note: Supplemental benefit contributions are to be made at the applicable overtime rates.

Sheet Metal Worker - Duct Cleaner

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $12.90
Supplemental Benefit Rate per Hour: $8.07

Sheet Metal Worker - Fan Maintenance

(The temporary operation of fans or blowers in new or existing buildings for heating and/or ventilation, and/or air conditioning prior to the completion of the project.)

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $36.77
Supplemental Benefit Rate per Hour: $43.19

Overtime
Time and one half the regular rate after a 7 hour day.
Time and one half the regular rate for Saturday.
Double time the regular rate for Sunday.

Overtime Holidays
Double time the regular rate for work on the following holiday(s).
New Year's Day
Martin Luther King Jr. Day
President's Day
Memorial Day
Independence Day
Labor Day
Columbus Day
Veteran's Day
Thanksgiving Day
Day after Thanksgiving
Christmas Day

Paid Holidays
None

Shift Rates

Work that can only be performed outside regular working hours (seven hours of work between 7:30 A.M. and 3:30 P.M.) - First shift (work between 3:30 P.M. and 11:30 P.M.) - 10% differential above the established hourly rate. Second shift (work between 11:30 P.M. and 7:30 A.M.) - 15% differential above the established hourly rate.

For Fan Maintenance: On all full shifts of fan maintenance work the straight time hourly rate of pay will be paid for each shift, including nights, Saturdays, Sundays, and holidays. No journeyperson engaged in fan maintenance shall work in excess of forty (40) hours in any work week.

(Local #28)

SHEET METAL WORKER - SPECIALTY (Decking & Siding)

Sheet Metal Specialty Worker

The first worker to perform this work must be paid at the rate of the Sheet Metal Worker. The second and third workers shall be paid the Specialty Worker Rate. The ratio of One Sheet Metal Worker, then Two Specialty Workers shall be utilized thereafter.

Effective Period: 7/1/2013 - 7/31/2013
Wage Rate per Hour: $41.28
Supplemental Benefit Rate per Hour: $22.88
Supplemental Note: Supplemental benefit contributions are to be made at the applicable overtime rates.

Effective Period: 8/1/2013 - 6/30/2014
Wage Rate per Hour: $40.78
Supplemental Benefit Rate per Hour: $23.38
Supplemental Note: Supplemental benefit contributions are to be made at the applicable overtime rates.

Overtime

Time and one half the regular rate after an 8 hour day.
Time and one half the regular rate for Saturday.
Double time the regular rate for Sunday.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).
New Year's Day
Martin Luther King Jr. Day
President's Day
Memorial Day
Independence Day
Labor Day
Columbus Day
Veteran's Day
Thanksgiving Day
Christmas Day

Paid Holidays
None

(Local #28)

SIGN ERECTOR
(Sheet Metal, Plastic, Electric, and Neon)

Sign Erector

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $42.80
Supplemental Benefit Rate per Hour: $42.17

Overtime
Time and one half the regular rate after a 7 hour day.
Time and one half the regular rate for Saturday.
Time and one half the regular rate for Sunday.
Time and one half the regular rate for work on the following holiday(s).

Paid Holidays
New Year's Day
Washington's Birthday
Memorial Day
Independence Day
Labor Day
Columbus Day
Election Day
Thanksgiving Day
Day after Thanksgiving
Christmas Day

Shift Rates
Time and one half the regular hourly rate is to be paid for all hours worked outside the regular workday either (7:00 A.M. through 2:30 P.M.) or (8:00 A.M. through 3:30 P.M.)

(Local #137)

STEAMFITTER

Steamfitter I

ffective Period: 7/1/2013 - 6/30/2014
Vage Rate per Hour: $52.50

Supplemental Benefit Rate per Hour: $50.54
Supplemental Note: Overtime supplemental benefit rate: $100.34

Overtime
Double time the regular rate after a 7 hour day.
Double time the regular time rate for Saturday.
Double time the regular rate for Sunday.

Overtime Holidays
Double time the regular rate for work on the following holiday(s).
New Year's Day
President's Day
Memorial Day
Independence Day
Labor Day
Columbus Day
Veteran's Day
Thanksgiving Day
Day after Thanksgiving
Christmas Day

Paid Holidays
None

Shift Rates
Work performed between 3:30 P.M. and 7:00 A.M. and on Saturdays, Sundays and Holidays shall be at double time the regular hourly rate and paid at the overtime supplemental benefit rate above.

Steamfitter II

For heating, ventilation, air conditioning and mechanical public works contracts with a dollar value not to exceed $15,000,000 and for fire protection/sprinkler public works contracts not to exceed $1,500,000.

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $52.50
Supplemental Benefit Rate per Hour: $50.54
Supplemental Note: Overtime supplemental benefit rate: $100.34

Overtime
Double time the regular rate after an 8 hour day.
Double time the regular time rate for Saturday.
Double time the regular rate for Sunday.

Overtime Holidays
Double time the regular rate for work on the following holiday(s).
New Year's Day
President's Day
Memorial Day
Independence Day
Labor Day

Columbus Day
Veteran's Day
Thanksgiving Day
Day after Thanksgiving
Christmas Day

Paid Holidays
None

Shift Rates
May be performed outside of the regular workday except Saturday, Sunday and Holidays. A shift shall consist of eight working hours. All work performed in excess of eight hours shall be paid at double time. No shift shall commence after 7:00 P.M. on Friday or 7:00 P.M. the day before holidays. All work performed after 12:01 A.M. Saturday or 12:01 A.M. the day before a Holiday will be paid at double time. When shift work is performed the wage rate for regular time worked is a thirty percent premium together with fringe benefits.

On Transit Authority projects, where work is performed in the vicinity of tracks all shift work on weekends and holidays may be performed at the regular shift rates.

Local #638

STEAMFITTER - REFRIGERATION AND AIR CONDITIONER (Maintenance and Installation Service Person)

Refrigeration and Air Conditioner Mechanic

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $36.30
Supplemental Benefit Rate per Hour: $11.76

Refrigeration and Air Conditioner Service Person V

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $29.82
Supplemental Benefit Rate per Hour: $10.71

Refrigeration and Air Conditioner Service Person IV

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $24.71
Supplemental Benefit Rate per Hour: $9.80

Refrigeration and Air Conditioner Service Person III

Filter changing and maintenance thereof, oil and greasing, tower and coil cleaning, scraping and painting, eneral housekeeping, taking of water samples.

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $21.21
Supplemental Benefit Rate per Hour: $9.12

Refrigeration and Air Conditioner Service Person II

Filter changing and maintenance thereof, oil and greasing, tower and coil cleaning, scraping and painting, general housekeeping, taking of water samples.

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $17.60
Supplemental Benefit Rate per Hour: $8.50

Refrigeration and Air Conditioner Service Person I

Filter changing and maintenance thereof, oil and greasing, tower and coil cleaning, scraping and painting, general housekeeping, taking of water samples.

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $10.95
Supplemental Benefit Rate per Hour: $7.90

Overtime

Time and one half the regular rate after an 8 hour day.
Time and one half the regular rate for Saturday.
Double time the regular rate for Sunday.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).
New Year's Day
Independence Day
Labor Day
Veteran's Day
Thanksgiving Day
Christmas Day

Double time and one half the regular rate for work on the following holiday(s).
Martin Luther King Jr. Day
President's Day
Memorial Day
Columbus Day

Paid Holidays

New Year's Day
Martin Luther King Jr. Day
President's Day
Memorial Day
Independence Day
Labor Day
Columbus Day
Veteran's Day
Thanksgiving Day
Christmas Day

(Local #638B)

STONE MASON - SETTER

Stone Mason - Setters

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $47.72
Supplemental Benefit Rate per Hour: $35.28

Overtime
Time and one half the regular rate after a 7 hour day.
Time and one half the regular rate for Saturday.
Double time the regular rate for Sunday.

Overtime Holidays
Double time the regular rate for work on the following holiday(s).
New Year's Day
Washington's Birthday
Good Friday
Memorial Day
Independence Day
Labor Day
Thanksgiving Day
Christmas Day

Paid Holidays
1/2 day on Christmas Eve if work is performed in the A.M.

Shift Rates
For all work outside the regular workday (8:00 A.M. to 3:30 P.M. Monday through Friday), the pay shall be straight time plus a ten percent (10%) differential.

(Bricklayers District Council)

TAPER

Drywall Taper

Effective Period: 7/1/2013 - 12/31/2013
Wage Rate per Hour: $44.32
Supplemental Benefit Rate per Hour: $21.66

Effective Period: 1/1/2014 - 6/24/2014

Wage Rate per Hour: $44.82
Supplemental Benefit Rate per Hour: $21.66

Effective Period: 6/25/2014 - 6/30/2014
Wage Rate per Hour: $45.32
Supplemental Benefit Rate per Hour: $21.66

Overtime
Time and one half the regular rate after a 7 hour day.
Time and one half the regular rate for Saturday.
Time and one half the regular rate for Sunday.

Overtime Holidays
Time and one half the regular rate for work on the following holiday(s).
New Year's Day
Martin Luther King Jr. Day
President's Day
Good Friday
Memorial Day
Independence Day
Labor Day
Columbus Day
Thanksgiving Day
Christmas Day

Paid Holidays
Any worker who reports to work on Christmas Eve or New Year's Eve pursuant to his employer's instruction shall be entitled to three (3) hours afternoon pay without working.

Shift Rates
Time and one half the regular rate outside the regular work hours (8:00 A.M. through 3:30 P.M.)

(Local #1974)

TELECOMMUNICATION WORKER (Voice Installation Only)

Telecommunication Worker

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $35.94
Supplemental Benefit Rate per Hour: $13.19
Supplemental Note: The above rate applies for Manhattan, Bronx, Brooklyn, Queens. $12.64 for Staten Island only.

Overtime
Time and one half the regular rate after a 7 hour day.

Time and one half the regular rate for Saturday.
Time and one half the regular rate for Sunday.

Overtime Holidays

Time and one half the regular rate for work on the following holiday(s).
New Year's Day
Lincoln's Birthday
Washington's Birthday
Memorial Day
Independence Day
Labor Day
Columbus Day
Election Day
Veteran's Day
Thanksgiving Day
Christmas Day

Paid Holidays

New Year's Day
Lincoln's Birthday
Washington's Birthday
Memorial Day
Independence Day
Labor Day
Columbus Day
Election Day
Veteran's Day
Thanksgiving Day
Christmas Day
Employees have the option of observing either Martin Luther King's Birthday or the day after Thanksgiving instead of Lincoln's Birthday

Shift Rates

For any workday that starts before 8A.M. or ends after 6P.M. there is a 10% differential for the applicable worker's hourly rate.

Vacation

After 6 months.....one week.
After 12 months but less than 7 years.....two weeks.
After 7 or more but less than 15 years.....three weeks.
After 15 years or more but less than 25 years.....four weeks.

(C.W.A.)

TILE FINISHER

Tile Finisher

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $38.49
Supplemental Benefit Rate per Hour: $27.40

Overtime
Time and one half the regular rate after a 7 hour day.
Time and one half the regular rate for Saturday.
Double time the regular rate for Sunday.

Overtime Holidays
Double time the regular rate for work on the following holiday(s).
New Year's Day
President's Day
Good Friday
Memorial Day
Independence Day
Labor Day
Columbus Day
Veteran's Day
Thanksgiving Day
Day after Thanksgiving
Christmas Day

Paid Holidays
None

Shift Rates
Off shift work day (work performed outside the regular 8:00 A.M. to 3:30 P.M. workday): shift differential of one and one quarter (1¼) times the regular straight time rate of pay for the seven hours of actual off-shift work.

(Local #7)

TILE LAYER - SETTER

Tile Layer - Setter

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $48.35
Supplemental Benefit Rate per Hour: $31.44

Overtime
Time and one half the regular rate after a 7 hour day.
Time and one half the regular rate for Saturday.
Double time the regular rate for Sunday.

Overtime Holidays
Double time the regular rate for work on the following holiday(s).
New Year's Day
President's Day
Good Friday
Memorial Day
Independence Day

Labor Day
Columbus Day
Veteran's Day
Thanksgiving Day
Day after Thanksgiving
Christmas Day

Shift Rates

Off shift work day (work performed outside the regular 8:00 A.M. to 3:30 P.M. workday): shift differential of one and one quarter (1¼) times the regular straight time rate of pay for the seven hours of actual off-shift work.

(Local #7)

TIMBERPERSON

Timberperson

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $42.63
Supplemental Benefit Rate per Hour: $44.54

Overtime

Time and one half the regular rate after an 8 hour day.
Time and one half the regular rate for Saturday.
Double time the regular rate for Sunday.
Saturday may be used as a make-up day at straight time when a day is lost during that week to inclement weather.
Time and one half the regular hourly rate after 40 hours in any work week.

Overtime Holidays

Double time the regular rate for work on the following holiday(s).
New Year's Day
President's Day
Memorial Day
Independence Day
Labor Day
Columbus Day
Presidential Election Day
Thanksgiving Day
Christmas Day

Paid Holidays

None

Shift Rates

Off shift work, commencing between 5:00 P.M. and 11:00 P.M., shall work eight and one half hours allowing for one half hour for lunch but will be paid 113% of the straight time hourly wage and the straight time supplemental benefits.

(Local #1536)

TUNNEL WORKER

Blasters, Mucking Machine Operators (Compressed Air Rates)

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $54.20
Supplemental Benefit Rate per Hour: $48.20

Tunnel Workers (Compressed Air Rates)

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $52.31
Supplemental Benefit Rate per Hour: $46.59

Top Nipper (Compressed Air Rates)

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $51.35
Supplemental Benefit Rate per Hour: $45.78

Outside Lock Tender, Outside Gauge Tender,Muck Lock Tender (Compressed Air Rates)

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $50.42
Supplemental Benefit Rate per Hour: $44.91

Bottom Bell & Top Bell Signal Person: Shaft Person (Compressed Air Rates)

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $50.42
Supplemental Benefit Rate per Hour: $44.92

Changehouse Attendant: Powder Watchperson (Compressed Air Rates)

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $43.94
Supplemental Benefit Rate per Hour: $42.55

Blasters (Free Air Rates)

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $51.72
Supplemental Benefit Rate per Hour: $46.03

Tunnel Workers (Free Air Rates)

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $49.48
Supplemental Benefit Rate per Hour: $44.06

All Others (Free Air Rates)

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $45.73
Supplemental Benefit Rate per Hour: $40.75

Microtunneling (Free Air Rates)

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $39.58
Supplemental Benefit Rate per Hour: $35.25

Overtime Description

For Repair-Maintenance Work on Existing Equipment and Facilities - Time and one half the regular rate after a 7 hour day, or for Saturday, or for Sunday. Double time the regular rate for work on a holiday.
For Small-Bore Micro Tunneling Machines - Time and one-half the regular rate shall be paid for all overtime.

Overtime

Double time the regular rate after an 8 hour day.
Double time the regular time rate for Saturday.
Double time the regular rate for Sunday.
Double time the regular rate for work on the following holiday(s).

Paid Holidays

New Year's Day
Lincoln's Birthday
President's Day
Memorial Day
Independence Day
Labor Day
Columbus Day
Election Day
Veteran's Day
Thanksgiving Day
Christmas Day

(Local #147)

WELDER
TO BE PAID AT THE RATE OF THE JOURNEYPERSON IN THE TRADE PERFORMING THE WORK.

(NO TEXT ON THIS PAGE)

OFFICE OF THE COMPTROLLER

CITY OF NEW YORK

220 APPRENTICESHIP PREVAILING WAGE SCHEDULE

APPENDIX

Pursuant to Labor Law §220 (3-e), only apprentices who are individually registered in a bona fide program to which the employer contractor is a participant and registered with the New York State Department of Labor, may be employed on a public work project.

Any employee listed on a payroll at an apprentice wage rate, who is not registered as above, shall be paid the journey person wage rate for the classification of work he actually performed.

Apprentice ratios are established to ensure the proper safety, training and supervision of apprentices. A ratio establishes the number of journey workers required for each apprentice in a program and on a job site. Ratios are interpreted as follows: in the case of a 1:1, 1:4 ratio, there must be one journey worker for the first apprentice, and four additional journey workers for each subsequent apprentice.

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ASBESTOS HANDLER
(Ratio of Apprentice Journeyperson: 1 to 1, 1 to 3)

Asbestos Handler (First 1000 Hours)

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate Per Hour: 78% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: $15.05

Asbestos Handler (Second 1000 Hours)

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate Per Hour: 80% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: $15.05

Asbestos Handler (Third 1000 Hours)

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate Per Hour: 83% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: $15.05

Asbestos Handler (Fourth 1000 Hours)

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate Per Hour: 89% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: $15.05

(Local #78)

BOILERMAKER
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 3)

Boilermaker (First Year)

Effective Period: 7/1/2013 - 12/31/2013
Wage Rate Per Hour: 65% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: $28.75

Effective Period: 1/1/2014 - 6/30/2014
Wage Rate Per Hour: 65% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: $29.74

Boilermaker (Second Year: 1st Six Months)

Effective Period: 7/1/2013 - 12/31/2013
Wage Rate Per Hour: 70% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: $30.33

Effective Period: 1/1/2014 - 6/30/2014
Wage Rate Per Hour: 75% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: $31.91

Boilermaker (Second Year: 2nd Six Months)

Effective Period: 7/1/2013 - 12/31/2013
Wage Rate Per Hour: 75% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: $31.91

Effective Period: 1/1/2014 - 6/30/2014
Wage Rate Per Hour: 75% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: $33.05

Boilermaker (Third Year: 1st Six Months)

Effective Period: 7/1/2013 - 12/31/2013
Wage Rate Per Hour: 80% of Journeyperson's rat
Supplemental Benefit Rate Per Hour: $33.49

Effective Period: 1/1/2014 - 6/30/2014
Wage Rate Per Hour: 80% of Journeyperson's rat
Supplemental Benefit Rate Per Hour: $34.69

Boilermaker (Third Year: 2nd Six Months)

Effective Period: 7/1/2013 - 12/31/2013
Wage Rate Per Hour: 85% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: $35.05

Effective Period: 1/1/2014 - 6/30/2014
Wage Rate Per Hour: 85% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: $36.34

Boilermaker (Fourth Year: 1st Six Months)

Effective Period: 7/1/2013 - 12/31/2013
Wage Rate Per Hour: 90% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: $36.63

Effective Period: 1/1/2014 - 6/30/2014
Wage Rate Per Hour: 90% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: $38.00

Boilermaker (Fourth Year: 2nd Six Months)

Effective Period: 7/1/2013 - 12/31/2013

Wage Rate Per Hour: 95% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: $38.20

Effective Period: 1/1/2014 - 6/30/2014
Wage Rate Per Hour: 95% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: $39.65

(Local #5)

BRICKLAYER
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 4)

Bricklayer (First 750 Hours)

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate Per Hour: 50% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: $16.60

Bricklayer (Second 750 Hours)

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate Per Hour: 60% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: $16.60

Bricklayer (Third 750 Hours)

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate Per Hour: 70% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: $16.60

Bricklayer (Fourth 750 Hours)

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate Per Hour: 80% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: $16.60

Bricklayer (Fifth 750 Hours)

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate Per Hour: 90% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: $16.60

Bricklayer (Sixth 750 Hours)

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate Per Hour: 95% of Journeyperson's rate

Supplemental Benefit Rate Per Hour: $16.60

(Bricklayer District Council)

CARPENTER
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 4)

Carpenter (First Year)

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate Per Hour: 40% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: $27.69
Effective 7/18/13 - Supplemental Benefit Rate Per Hour: $30.29

Carpenter (Second Year)

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate Per Hour: 50% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: $27.69
Effective 7/18/13 - Supplemental Benefit Rate Per Hour: $30.29

Carpenter (Third Year)

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate Per Hour: 65% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: $27.69
Effective 7/18/13 - Supplemental Benefit Rate Per Hour: $30.29

Carpenter (Fourth Year)

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate Per Hour: 80% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: $27.69
Effective 7/18/13 - Supplemental Benefit Rate Per Hour: $30.29

(Carpenters District Council)

CEMENT MASON
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 4)

Cement Mason (First Year)

Effective Period: 7/1/2013 - 6/30/2014
Wage and Supplemental Rate Per Hour: 50% of Journeyperson's Rate

Cement Mason (Second Year)

Effective Period: 7/1/2013 - 6/30/2014
Wage and Supplemental Rate Per Hour: 60% of Journeyperson's Rate

Cement Mason (Third Year)

Effective Period: 7/1/2013 - 6/30/2014
Wage and Supplemental Rate Per Hour: 70% of Journeyperson's Rate

(Local #780)

CEMENT AND CONCRETE WORKER
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 3)

Cement & Concrete Worker (0 - 500 hours)

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate Per Hour: 50% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: $18.04

Cement & Concrete Worker (501 - 1000 hours)

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate Per Hour: 65% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: $18.87

Cement & Concrete Worker (1001 - 2000 hours)

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate Per Hour: 65% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: $24.25

Cement & Concrete Worker (2001 - 4000 hours)

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate Per Hour: 80% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: $25.07

Cement Concrete Workers District Council)

DERRICKPERSON & RIGGER (STONE)
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 6)

Derrickperson & Rigger (stone) - First Year

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate Per Hour: 50% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: 50% of Journeyperson's rate

Derrickperson & Rigger (stone) - Second Year: 1st Six Months

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate Per Hour: 70% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: 75% of Journeyperson's rate

Derrickperson & Rigger (stone) - Second Year: 2nd Six Months

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate Per Hour: 80% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: 75% of Journeyperson's rate

Derrickperson & Rigger (stone) - Third Year

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate Per Hour: 90% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: 75% of Journeyperson's rate

(Local #197)

DOCKBUILDER/PILE DRIVER
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 6)

Dockbuilder/Pile Driver (First Year)

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate Per Hour: 40% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: $30.29

Dockbuilder/Pile Driver (Second Year)

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate Per Hour: 50% of Journeyperson's rate

Supplemental Benefit Rate Per Hour: $30.29

Dockbuilder/Pile Driver (Third Year)

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate Per Hour: 65% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: $30.29

Dockbuilder/Pile Driver (Fourth Year)

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate Per Hour: 80% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: $30.29

(Carpenters District Council)

ELECTRICIAN
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 3)

Electrician (First Year - Hired before 5/10/07)

Effective Period: 7/1/2013 - 5/13/2014
Wage Rate per Hour: $15.25
Supplemental Benefit Rate per Hour: $12.26
Overtime Wage Rate Per Hour: $22.88
Overtime Supplemental Rate Per Hour: $13.26

Effective Period: 5/14/2014 - 6/30/2014
Wage Rate per Hour: $15.25
Supplemental Benefit Rate per Hour: $12.51
Overtime Wage Rate Per Hour: $22.88
Overtime Supplemental Rate Per Hour: $13.51

Electrician (First Year - Hired on or After 5/10/07)

Effective Period: 7/1/2013 - 5/13/2014
Wage Rate per Hour: $12.50
Supplemental Benefit Rate per Hour: $10.86
Overtime Wage Rate Per Hour: $18.75
Overtime Supplemental Rate Per Hour: $11.68

Effective Period: 5/14/2014 - 6/30/2014
Wage Rate per Hour: $12.50
Supplemental Benefit Rate per Hour: $11.11
Overtime Wage Rate Per Hour: $18.75
Overtime Supplemental Rate Per Hour: $11.93

Electrician (Second Year - Hired before 5/10/07)

Effective Period: 7/1/2013 - 5/13/2014
Wage Rate per Hour: $18.05
Supplemental Benefit Rate per Hour: $13.68
Overtime Wage Rate Per Hour: $27.08
Overtime Supplemental Rate Per Hour: $14.87

Effective Period: 5/14/2014 - 6/30/2014
Wage Rate per Hour: $18.05
Supplemental Benefit Rate per Hour: $13.93
Overtime Wage Rate Per Hour: $27.08
Overtime Supplemental Rate Per Hour: $15.12

Electrician (Second Year - Hired on or After 5/10/07)

Effective Period: 7/1/2013 - 5/13/2014
Wage Rate per Hour: $14.50
Supplemental Benefit Rate per Hour: $11.88
Overtime Wage Rate Per Hour: $21.75
Overtime Supplemental Rate Per Hour: $12.83

Effective Period: 5/14/2014 - 6/30/2014
Wage Rate per Hour: $14.50
Supplemental Benefit Rate per Hour: $12.13
Overtime Wage Rate Per Hour: $21.75
Overtime Supplemental Rate Per Hour: $13.08

Electrician (Third Year - Hired before 5/10/07)

Effective Period: 7/1/2013 - 5/13/2014
Wage Rate per Hour: $20.15
Supplemental Benefit Rate per Hour: $14.75
Overtime Wage Rate Per Hour: $30.23
Overtime Supplemental Rate Per Hour: $16.08

Effective Period: 5/14/2014 - 6/30/2014
Wage Rate per Hour: $20.15
Supplemental Benefit Rate per Hour: $15.00
Overtime Wage Rate Per Hour: $30.23
Overtime Supplemental Rate Per Hour: $16.33

Electrician (Third Year - Hired on or After 5/10/07)

Effective Period: 7/1/2013 - 5/13/2014
Wage Rate per Hour: $16.50
Supplemental Benefit Rate per Hour: $12.89
Overtime Wage Rate Per Hour: $24.75
Overtime Supplemental Rate Per Hour: $13.98

Effective Period: 5/14/2014 - 6/30/2014
Wage Rate per Hour: $16.50
Supplemental Benefit Rate per Hour: $13.14
Overtime Wage Rate Per Hour: $24.75
Overtime Supplemental Rate Per Hour: $14.23

Electrician (Fourth Year - Hired before 5/10/07)

Effective Period: 7/1/2013 - 5/13/2014
Wage Rate per Hour: $22.10
Supplemental Benefit Rate per Hour: $15.74
Overtime Wage Rate Per Hour: $33.15
Overtime Supplemental Rate Per Hour: $17.20

Effective Period: 5/14/2014 - 6/30/2014
Wage Rate per Hour: $22.10
Supplemental Benefit Rate per Hour: $15.99
Overtime Wage Rate Per Hour: $33.15
Overtime Supplemental Rate Per Hour: $17.45

Electrician (Fourth Year - Hired on or After 5/10/07)

Effective Period: 7/1/2013 - 5/13/2014
Wage Rate per Hour: $18.50
Supplemental Benefit Rate per Hour: $13.91
Overtime Wage Rate Per Hour: $27.75
Overtime Supplemental Rate Per Hour: $15.13

Effective Period: 5/14/2014 - 6/30/2014
Wage Rate per Hour: $18.50
Supplemental Benefit Rate per Hour: $14.16
Overtime Wage Rate Per Hour: $27.75
Overtime Supplemental Rate Per Hour: $15.38

Electrician (Fifth Year - Hired before 5/10/07)

Effective Period: 7/1/2013 - 5/13/2014
Wage Rate per Hour: $25.80
Supplemental Benefit Rate per Hour: $19.21
Overtime Wage Rate Per Hour: $38.70
Overtime Supplemental Rate Per Hour: $20.83

Effective Period: 5/14/2014 - 6/30/2014
Wage Rate per Hour: $26.30
Supplemental Benefit Rate per Hour: $19.96
Overtime Wage Rate Per Hour: $39.45
Overtime Supplemental Rate Per Hour: $21.61

Electrician (Fifth Year - Hired on or After 5/10/07)

Effective Period: 7/1/2013 - 5/13/2014
Wage Rate per Hour: $22.00
Supplemental Benefit Rate per Hour: $17.30
Overtime Wage Rate Per Hour: $33.00
Overtime Supplemental Rate Per Hour: $18.68

Effective Period: 5/14/2014 - 6/30/2014
Wage Rate per Hour: $22.50
Supplemental Benefit Rate per Hour: $18.05
Overtime Wage Rate Per Hour: $33.75
Overtime Supplemental Rate Per Hour: $19.46

Overtime Description
For "A" rated Apprentices (work in excess of 7 hours per day)
For "M" rated Apprentices (work in excess of 8 hours per day)

(Local #3)

ELEVATOR CONSTRUCTOR
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 2)

Elevator (Constructor) - First Year

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate Per Hour: 50% of Journeyperson's rate
Supplemental Rate Per Hour: $26.87

Elevator (Constructor) - Second Year

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate Per Hour: 55% of Journeyperson's rate
Supplemental Rate Per Hour: $27.92

Elevator (Constructor) - Third Year

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate Per Hour: 65% of Journeyperson's rate
Supplemental Rate Per Hour: $29.38

Elevator (Constructor) - Fourth Year

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate Per Hour: 75% of Journeyperson's rate
Supplemental Rate Per Hour: $30.84

(Local #1)

ELEVATOR REPAIR & MAINTENANCE
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 2)

Elevator Service/Modernization Mechanic (First Year)

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate Per Hour: 50% of Journeyperson's rate
Supplemental Benefit Per Hour: $26.79

Elevator Service/Modernization Mechanic (Second Year)

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate Per Hour: 55% of Journeyperson's rate
Supplemental Benefit Per Hour: $27.12

Elevator Service/Modernization Mechanic (Third Year)

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate Per Hour: 65% of Journeyperson's rate
Supplemental Benefit Per Hour: $28.43

Elevator Service/Modernization Mechanic (Fourth Year)

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate Per Hour: 75% of Journeyperson's rate
Supplemental Benefit Per Hour: $29.74

(Local #1)

ENGINEER
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 5)

Engineer - First Year

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $22.49
Supplemental Benefit Rate per Hour: $20.68

Engineer - Second Year

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $28.11
Supplemental Benefit Rate per Hour: $20.68

Engineer - Third Year

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $20.92
Supplemental Benefit Rate per Hour: $20.68

Engineer - Fourth Year

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $33.73
Supplemental Benefit Rate per Hour: $20.68

(Local #15)

ENGINEER - OPERATING
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 5)

Operating Engineer - First Year

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate Per Hour 40% of Journeyperson's Rate
Supplemental Benefit Per Hour: $18.60

Operating Engineer - Second Year

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate Per Hour: 50% of Journeyperson's Rate
Supplemental Benefit Per Hour: $18.60

Operating Engineer - Third Year

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate Per Hour: 60% of Journeyperson's Rate
Supplemental Benefit Per Hour: $18.60

(Local #14)

FLOOR COVERER
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 4)

Floor Coverer (First Year)

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate Per Hour: 40% of Journeyperson's rate
Supplemental Rate Per Hour: $25.75

Floor Coverer (Second Year)

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate Per Hour: 50% of Journeyperson's rate
Supplemental Rate Per Hour: $25.75

Floor Coverer (Third Year)

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate Per Hour: 65% of Journeyperson's rate
Supplemental Rate Per Hour: $25.75

Floor Coverer (Fourth Year)

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate Per Hour: 80% of Journeyperson's rate
Supplemental Rate Per Hour: $25.75

(Carpenters District Council)

GLAZIER
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 3)

Glazier (First Year)

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate Per Hour: 40% of Journeyperson's rate
Supplemental Rate Per Hour: $11.97

Glazier (Second Year)

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate Per Hour: 50% of Journeyperson's rate
Supplemental Rate Per Hour: $21.13

Glazier (Third Year)

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate Per Hour: 60% of Journeyperson's rate
Supplemental Rate Per Hour: $23.54

Glazier (Fourth Year)

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate Per Hour: 80% of Journeyperson's rate
Supplemental Rate Per Hour: $28.34

(Local #1281)

HEAT & FROST INSULATOR
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 4)

Heat & Frost Insulator (First Year)

Effective Period: 7/1/2013 - 6/30/2014
Wage and Supplemental Rate Per Hour: 40% of Journeyperson's rate

Heat & Frost Insulator (Second Year)

Effective Period: 7/1/2013 - 6/30/2014
Wage and Supplemental Rate Per Hour: 60% of Journeyperson's rate

Heat & Frost Insulator (Third Year)

Effective Period: 7/1/2013 - 6/30/2014
Wage and Supplemental Rate Per Hour: 70% of Journeyperson's rate

Heat & Frost Insulator (Fourth Year)

Effective Period: 7/1/2013 - 6/30/2014
Wage and Supplemental Rate Per Hour: 80% of Journeyperson's rate

(Local #12)

HOUSE WRECKER
(TOTAL DEMOLITION)

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 3)

House Wrecker - First Year

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $20.36
Supplemental Benefit Rate per Hour: $16.35

House Wrecker - Second Year

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $21.46
Supplemental Benefit Rate per Hour: $16.35

House Wrecker - Third Year

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $23.01
Supplemental Benefit Rate per Hour: $16.35

House Wrecker - Fourth Year

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $25.36
Supplemental Benefit Rate per Hour: $16.35

(Local #79)

IRON WORKER - ORNAMENTAL
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 4)

Iron Worker (Ornamental) - 1st Four Months - Hired on or Before 8/1/08

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate Per Hour: 60% of Journeyperson's rate
Supplemental Rate Per Hour: $35.78

Iron Worker (Ornamental) 5 - 10 Months - Hired on or Before 8/1/08

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate Per Hour: 65% of Journeyperson's rate
Supplemental Rate Per Hour: $36.75

Iron Worker (Ornamental) 11 - 16 Months - Hired on or Before 8/1/08

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate Per Hour: 70% of Journeyperson's rate
Supplemental Rate Per Hour: $37.72

Iron Worker (Ornamental) 17 - 22 Months - Hired on or Before 8/1/08

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate Per Hour: 80% of Journeyperson's rate
Supplemental Rate Per Hour: $39.66

Iron Worker (Ornamental) 23 - 28 Months - Hired on or Before 8/1/08

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate Per Hour: 85% of Journeyperson's rate
Supplemental Rate Per Hour: $40.63

Iron Worker (Ornamental) 29 - 36 Months - Hired on or Before 8/1/08

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate Per Hour: 95% of Journeyperson's rate
Supplemental Rate Per Hour: $42.57

Iron Worker (Ornamental) - 1st Ten Months - Hired After 8/1/08

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate Per Hour: 50% of Journeyperson's rate
Supplemental Rate Per Hour: $33.84

Iron Worker (Ornamental) - 11 - 16 Months - Hired After 8/1/08

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate Per Hour: 55% of Journeyperson's rate
Supplemental Rate Per Hour: $34.81

Iron Worker (Ornamental) - 17 - 22 Months - Hired After 8/1/08

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate Per Hour: 60% of Journeyperson's rate
Supplemental Rate Per Hour: $35.78

Iron Worker (Ornamental) - 23 - 28 Months - Hired After 8/1/08

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate Per Hour: 70% of Journeyperson's rate
Supplemental Rate Per Hour: $37.72

Iron Worker (Ornamental) - 29 - 36 Months - Hired After 8/1/08

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate Per Hour: 80% of Journeyperson's rate
Supplemental Rate Per Hour: $39.66

(Local #580)

IRON WORKER - STRUCTURAL
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 6)

Iron Worker (Structural) - 1st Six Months

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $24.48
Supplemental Benefit Rate per Hour: $43.87

Iron Worker (Structural) - 7- 18 Months

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $25.08
Supplemental Benefit Rate per Hour: $43.87

Iron Worker (Structural) - 19 - 36 months

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $25.68
Supplemental Benefit Rate per Hour: $43.87

(Local #40 and #361)

LABORER (FOUNDATION, CONCRETE, EXCAVATING, STREET PIPE LAYER & COMMON)
(Ratio Apprentice to Journeyperson: 1 to 1, 1 to 3)

Laborer (Foundation, Concrete, Excavating, Street Pipe Layer & Common) - First 1000 hours

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate Per Hour: 50% of Journeyperson's rate
Supplemental Rate Per Hour: $33.25

Laborer (Foundation, Concrete, Excavating, Street Pipe Layer & Common) - Second 1000 hours

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate Per Hour: 60% of Journeyperson's rate
Supplemental Rate Per Hour: $33.25

Laborer (Foundation, Concrete, Excavating, Street Pipe Layer & Common) - Third 1000 hours

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate Per Hour: 75% of Journeyperson's rate
Supplemental Rate Per Hour: $33.25

Laborer (Foundation, Concrete, Excavating, Street Pipe Layer & Common) - Fourth 1000 hours

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate Per Hour: 90% of Journeyperson's rate
Supplemental Rate Per Hour: $33.25

(Local #731)

MARBLE MECHANICS
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 4)

Cutters & Setters - First 750 Hours

Effective Period: 7/1/2013 - 6/30/2014
Wage and Supplemental Rate Per Hour: 50% of Journeyperson's rate

NO BENEFITS PAID DURING THE FIRST TWO MONTHS (PROBATIONARY PERIOD)

Cutters & Setters - Second 750 Hours

Effective Period: 7/1/2013 - 6/30/2014
Wage and Supplemental Rate Per Hour: 55% of Journeyperson's rate

Cutters & Setters - Third 750 Hours

Effective Period: 7/1/2013 - 6/30/2014
Wage and Supplemental Rate Per Hour: 65% of Journeyperson's rate

Cutters & Setters - Fourth 750 Hours

Effective Period: 7/1/2013 - 6/30/2014
Wage and Supplemental Rate Per Hour: 75% of Journeyperson's rate

Cutters & Setters - Fifth 750 Hours

Effective Period: 7/1/2013 - 6/30/2014
Wage and Supplemental Rate Per Hour: 85% of Journeyperson's rate

Cutters & Setters - Sixth 750 Hours

Effective Period: 7/1/2013 - 6/30/2014
Wage and Supplemental Rate Per Hour: 95% of Journeyperson's rate

Polishers & Finishers - First 750 Hours

Effective Period: 7/1/2013 - 6/30/2014
Wage and Supplemental Rate Per Hour: 50% of Journeyperson's rate

NO BENEFITS PAID DURING THE FIRST TWO MONTHS (PROBATIONARY PERIOD)

Polishers & Finishers - Second 750 Hours

Effective Period: 7/1/2013 - 6/30/2014
Wage and Supplemental Rate Per Hour: 60% of Journeyperson's rate

Polishers & Finishers - Third 750 Hours

Effective Period: 7/1/2013 - 6/30/2014
Wage and Supplemental Rate Per Hour: 75% of Journeyperson's rate

Polishers & Finishers - Fourth 750 Hours

Effective Period: 7/1/2013 - 6/30/2014
Wage and Supplemental Rate Per Hour: 90% of Journeyperson's rate

(Local #7)

MASON TENDER
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 3)

Mason Tender - First Year

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $20.63
Supplemental Benefit Rate per Hour: $17.06

Mason Tender - Second Year

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $21.73
Supplemental Benefit Rate per Hour: $17.06

Mason Tender - Third Year

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $23.33
Supplemental Benefit Rate per Hour: $17.06

Mason Tender - Fourth Year

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $25.93
Supplemental Benefit Rate per Hour: $17.06

(Local #79)

METALLIC LATHER
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 3)

Metallic Lather (First Year -Called Prior to 6/29/11)

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $28.11
Supplemental Benefit Rate per Hour: $22.79

Metallic Lather (Second Year - Called Prior to 6/29/11)

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $32.71
Supplemental Benefit Rate per Hour: $24.44

Metallic Lather (Third Year - Called Prior to 6/29/11)

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $37.77
Supplemental Benefit Rate per Hour: $25.59

Metallic Lather (First Year -Called On Or After 6/29/11)

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $17.71
Supplemental Benefit Rate per Hour: $19.85

Metallic Lather (Second Year - Called On Or After 6/29/11)

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $22.81
Supplemental Benefit Rate per Hour: $19.85

Metallic Lather (Third Year - Called On Or After 6/29/11)

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $27.91
Supplemental Benefit Rate per Hour: $19.85

(Local #46)

MILLWRIGHT
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 4)

Millwright (First Year)

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $26.23
Supplemental Benefit Rate per Hour: $31.51

Millwright (Second Year)

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $31.00
Supplemental Benefit Rate per Hour: $34.77

Millwright (Third Year)

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $35.77
Supplemental Benefit Rate per Hour: $39.19

Millwright (Fourth Year)

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $45.30

Supplemental Benefit Rate per Hour: $44.63

(Local #740)

PAVER AND ROADBUILDER
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 3)

Paver and Roadbuilder - First Year (Minimum 1000 hours)

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $26.19
Supplemental Benefit Rate per Hour: $16.20

Paver and Roadbuilder - Second Year (Minimum 1000 hours)

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $27.77
Supplemental Benefit Rate per Hour: $16.20

(Local #1010)

PAINTER
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 3)

Painter - Brush & Roller - First Year

Effective Period: 7/1/2013 - 4/30/2014
Wage Rate per Hour: $15.00
Supplemental Benefit Rate per Hour: $11.38

Effective Period: 5/1/2014 - 6/30/2014
Wage Rate per Hour: $15.80
Supplemental Benefit Rate per Hour: $11.88

Painter - Brush & Roller - Second Year

Effective Period: 7/1/2013 - 4/30/2014
Wage Rate per Hour: $18.75
Supplemental Benefit Rate per Hour: $15.23

Effective Period: 5/1/2014 - 6/30/2014
Wage Rate per Hour: $19.75
Supplemental Benefit Rate per Hour: $15.73

Painter - Brush & Roller - Third Year

Effective Period: 7/1/2013 - 4/30/2014
Wage Rate per Hour: $22.50
Supplemental Benefit Rate per Hour: $18.14

Effective Period: 5/1/2014 - 6/30/2014
Wage Rate per Hour: $23.70
Supplemental Benefit Rate per Hour: $18.64

Painter - Brush & Roller - Fourth Year

Effective Period: 7/1/2013 - 4/30/2014
Wage Rate per Hour: $30.00
Supplemental Benefit Rate per Hour: $23.52

Effective Period: 5/1/2014 - 6/30/2014
Wage Rate per Hour: $31.60
Supplemental Benefit Rate per Hour: $24.02

(District Council of Painters)

PAINTER - STRUCTURAL STEEL
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 3)

Painters - Structural Steel (First Year)

Effective Period: 7/1/2013 - 6/30/2014
Wage and Supplemental Rate Per Hour: 40% of Journeyperson's rate

Painters - Structural Steel (Second Year)

Effective Period: 7/1/2013 - 6/30/2014
Wage and Supplemental Rate Per Hour: 60% of Journeyperson's rate

Painters - Structural Steel (Third Year)

Effective Period: 7/1/2013 - 6/30/2014
Wage and Supplemental Rate Per Hour: 80% of Journeyperson's rate

(Local #806)

PLASTERER
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 3)

Plasterer - First Year: 1st Six Months

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate Per Hour: 40% of Journeyperson's rate
Supplemental Rate Per Hour: $12.76

Plasterer - First Year: 2nd Six Months

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate Per Hour: 45% of Journeyperson's rate
Supplemental Rate Per Hour: $13.24

Plasterer - Second Year: 1st Six Months

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate Per Hour: 55% of Journeyperson's rate
Supplemental Rate Per Hour: $15.21

Plasterer - Second Year: 2nd Six Months

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate Per Hour: 60% of Journeyperson's rate
Supplemental Rate Per Hour: $16.29

Plasterer - Third Year: 1st Six Months

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate Per Hour: 70% of Journeyperson's rate
Supplemental Rate Per Hour: $18.46

Plasterer - Third Year: 2nd Six Months

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate Per Hour: 75% of Journeyperson's rate
Supplemental Rate Per Hour: $19.54

(Local #530)

PLUMBER
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 3)

Plumber - First Year: 1st Six Months

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $14.00
Supplemental Benefit Rate per Hour: $0.71

Plumber - First Year: 2nd Six Months

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $14.00
Supplemental Benefit Rate per Hour: $2.96

Plumber - Second Year

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $17.96
Supplemental Benefit Rate per Hour: $16.25

Plumber - Third Year

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $20.06
Supplemental Benefit Rate per Hour: $16.25

Plumber - Fourth Year

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $22.91
Supplemental Benefit Rate per Hour: $16.25

Plumber - Fifth Year: 1st Six Months

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $24.31
Supplemental Benefit Rate per Hour: $16.25

Plumber - Fifth Year: 2nd Six Months

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $36.38
Supplemental Benefit Rate per Hour: $16.25

(Plumbers Local #1)

POINTER - WATERPROOFER, CAULKER MECHANIC (EXTERIOR BUILDING RENOVATION)
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 4)

Pointer - Waterproofer, Caulker Mechanic - First Year

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $25.00
Supplemental Benefit Rate per Hour: $3.64

Pointer - Waterproofer, Caulker Mechanic - Second Year

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $27.25
Supplemental Benefit Rate per Hour: $8.59

Pointer - Waterproofer, Caulker Mechanic - Third Year

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $32.23
Supplemental Benefit Rate per Hour: $11.34

Pointer - Waterproofer, Caulker Mechanic - Fourth Year

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $38.66
Supplemental Benefit Rate per Hour: $11.34

(Bricklayer District Council)

ROOFER
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 2)

Roofer - First Year

Effective Period: 7/1/2013 - 6/30/2014
Wage and Supplemental Rate Per Hour: 35% of Journeyperson's Rate

Roofer - Second Year

Effective Period: 7/1/2013 - 6/30/2014
Wage and Supplemental Rate Per Hour: 50% of Journeyperson's Rate

Roofer - Third Year

Effective Period: 7/1/2013 - 6/30/2014
Wage and Supplemental Rate Per Hour: 60% of Journeyperson's Rate

Roofer - Fourth Year

Effective Period: 7/1/2013 - 6/30/2014
Wage and Supplemental Rate Per Hour: 75% of Journeyperson's Rate

(Local #8)

SHEET METAL WORKER
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 3)

Sheet Metal Worker - First Year

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate Per Hour: 30% of Journeyperson's rate
Supplemental Rate Per Hour: $15.37

Sheet Metal Worker - Second Year

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate Per Hour: 35% of Journeyperson's rate
Supplemental Rate Per Hour: $18.24

Sheet Metal Worker - Third Year (1st Six Months)

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate Per Hour: 40% of Journeyperson's rate
Supplemental Rate Per Hour: $20.06

Sheet Metal Worker - Third Year (2nd Six Months)

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate Per Hour: 45% of Journeyperson's rate
Supplemental Rate Per Hour: $21.87

Sheet Metal Worker - Fourth Year (1st Six Months)

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate Per Hour: 50% of Journeyperson's rate
Supplemental Rate Per Hour: $23.69

Sheet Metal Worker - Fourth Year (2nd Six Months)

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate Per Hour: 55% of Journeyperson's rate
Supplemental Rate Per Hour: $25.33

Sheet Metal Worker - Fifth Year (1st Six Months)

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate Per Hour: 60% of Journeyperson's rate
Supplemental Rate Per Hour: $27.47

Sheet Metal Worker - Fifth Year(2nd Six Months)

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate Per Hour: 70% of Journeyperson's rate
Supplemental Rate Per Hour: $31.23

(Local #28)

SIGN ERECTOR
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 4)

Sign Erector - First Year: 1st Six Months

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate Per Hour: 35% of Journeyperson's rate
Supplemental Rate Per Hour: $5.96

Sign Erector - First Year: 2nd Six Months

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate Per Hour: 40% of Journeyperson's rate
Supplemental Rate Per Hour: $6.75

Sign Erector - Second Year: 1st Six Months

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate Per Hour: 45% of Journeyperson's rate
Supplemental Rate Per Hour: $7.55

Sign Erector - Second Year: 2nd Six Months

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate Per Hour: 50% of Journeyperson's rate
Supplemental Rate Per Hour: $8.34

Sign Erector - Third Year: 1st Six Months

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate Per Hour: 55% of Journeyperson's rate
Supplemental Rate Per Hour: $9.13

Sign Erector - Third Year: 2nd Six Months

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate Per Hour: 60% of Journeyperson's rate
Supplemental Rate Per Hour: $9.92

Sign Erector - Fourth Year: 1st Six Months

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate Per Hour: 65% of Journeyperson's rate
Supplemental Rate Per Hour: $10.72

Sign Erector - Fourth Year: 2nd Six Months

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate Per Hour: 70% of Journeyperson's rate
Supplemental Rate Per Hour: $11.51

Sign Erector - Fifth Year

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate Per Hour: 75% of Journeyperson's rate
Supplemental Rate Per Hour: $12.30

Sign Erector - Sixth Year

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate Per Hour: 80% of Journeyperson's rate
Supplemental Rate Per Hour: $12.30

(Local #137)

STEAMFITTER
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 3)

Steamfitter - First Year

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate and Supplemental Per Hour: 40% of Journeyperson's rate

Steamfitter - Second Year

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate and Supplemental Rate Per Hour: 50% of Journeyperson's rate.

Steamfitter - Third Year

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate and Supplemental Rate per Hour: 65% of Journeyperson's rate.

Steamfitter - Fourth Year

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate and Supplemental Rate Per Hour: 80% of Journeyperson's rate.

Steamfitter - Fifth Year

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate and Supplemental Rate Per Hour: 85% of Journeyperson's rate.

(Local #638)

STONE MASON - SETTER
(Ratio Apprentice of Journeyperson: 1 to 1, 1 to 2)

Stone Mason - Setters - First 750 Hours

Effective Period: 7/1/2013 - 6/30/2014
Wage and Supplemental Rate Per Hour: 50% of Journeyperson's rate

Stone Mason - Setters - Second 750 Hours

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate Per Hour: 60% of Journeyperson's rate
Supplemental Rate Per Hour: 50% of Journeyperson's rate

Stone Mason - Setters - Third 750 Hours

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate Per Hour: 70% of Journeyperson's rate
Supplemental Rate Per Hour: 50% of Journeyperson's rate

Stone Mason - Setters - Fourth 750 Hours

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate Per Hour: 80% of Journeyperson's rate
Supplemental Rate Per Hour: 50% of Journeyperson's rate

Stone Mason - Setters - Fifth 750 Hours

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate Per Hour: 90% of Journeyperson's rate
Supplemental Rate Per Hour: 50% of Journeyperson's rate

Stone Mason - Setters - Sixth 750 Hours

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate Per Hour: 100% of Journeyperson's rate
Supplemental Rate Per Hour: 50% of Journeyperson's rate

(Bricklayers District Council)

TAPER
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 4)

Drywall Taper - First Year

Effective Period: 7/1/2013 - 6/30/2014
Wage and Supplemental Rate Per Hour: 40% of Journeyperson's rate

Drywall Taper - Second Year

Effective Period: 7/1/2013 - 6/30/2014
Wage and Supplemental Rate Per Hour: 60% of Journeyperson's rate

Drywall Taper - Third Year

Effective Period: 7/1/2013 - 6/30/2014
Wage and Supplemental Rate Per Hour: 80% of Journeyperson's rate

(Local #1974)

TILE LAYER - SETTER
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 4)

Tile Layer - Setter - First 750 Hours

Effective Period: 7/1/2013 - 6/30/2014
Wage and Supplemental Rate Per Hour: 50% of Journeyperson's rate

Tile Layer - Setter - Second 750 Hours

Effective Period: 7/1/2013 - 6/30/2014
Wage and Supplemental Rate Per Hour: 55% of Journeyperson's rate

Tile Layer - Setter - Third 750 Hours

Effective Period: 7/1/2013 - 6/30/2014
Wage and Supplemental Rate Per Hour: 65% of Journeyperson's rate

Tile Layer - Setter - Fourth 750 Hours

Effective Period: 7/1/2013 - 6/30/2014
Wage and Supplemental Rate Per Hour: 75% of Journeyperson's rate

Tile Layer - Setter - Fifth 750 Hours

Effective Period: 7/1/2013 - 6/30/2014
Wage and Supplemental Rate Per Hour: 85% of Journeyperson's rate

Tile Layer - Setter - Sixth 750 Hours

Effective Period: 7/1/2013 - 6/30/2014
Wage and Supplemental Rate Per Hour: 95% of Journeyperson's rate

(Local #7)

TIMBERPERSON
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 6)

Timberperson - First Year

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate Per Hour: 40% of Journeyperson's rate

Supplemental Rate Per Hour: $30.04

Timberperson - Second Year

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate Per Hour: 50% of Journeyperson's rate
Supplemental Rate Per Hour: $30.04

Timberperson - Third Year

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate Per Hour: 65% of Journeyperson's rate
Supplemental Rate Per Hour: $30.04

Timberperson - Fourth Year

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate Per Hour: 80% of Journeyperson's rate
Supplemental Rate Per Hour: $30.04

(Local #1536)

(NO TEXT ON THIS PAGE)

NYC ADMINISTRATIVE CODE § 6-109 SCHEDULE OF "LIVING WAGES"

Contractors who provide the following services to the City of New York must post a copy of this Living Wage Schedule at their work site(s) as required by New York City Administrative Code § 6-109:

- Building Services,
- Day Care Services,
- Food Services,
- Head Start Services,
- Homecare Services,
- Services to Persons with Cerebral Palsy, and
- Temporary Services.

In accordance with NYC Administrative Code § 6-109, the Comptroller of the City of New York promulgated this schedule of living wages for the above services on contracts for non-emergency work in excess of the small purchase limit set by the Procurement Policy Board; contracting agencies must annex this schedule to such contracts.

A city service contractor or subcontractor that provides homecare services, day care services, head start services or services to persons with cerebral palsy must pay its covered employees that directly render such services in performance of the city service contract or subcontract no less than the living wage and must provide its employees health benefits (supplemental benefits) or must supplement their hourly wage rate by an amount no less than the health benefits supplement rate. This requirement applies for each hour that the employee works performing the city service contract or subcontract.

A city service contractor or subcontractor that provides building services, food services or temporary services must pay its employees that are engaged in performing the city service contract or subcontract no less than the living wage or the prevailing wage, whichever is greater. Where the living wage is greater than the prevailing wage, the city service contractor or subcontractor must either provide its employees health benefits or must supplement their hourly wage rate by an amount no less than the health benefits supplement rate. Where the prevailing wage is greater than the living wage, the city service contractor or subcontractor must provide its employees the prevailing wage and supplements. These requirements apply for each hour that the employee works performing the city service contract or subcontract.

The appropriate schedule of living wages must be posted at all work sites pursuant to NYC Administrative Code 6-109.

The schedule is applicable for work performed during the effective period, unless otherwise noted. You will be notified of any changes to this schedule by addenda published on our web site www.comptroller.nyc.gov. Schedules for future one-year periods will be published annually in the City Record on or about July 1st of each succeeding year and on our web site www.comptroller.nyc.gov.

The living wage rate and the health benefit supplement rate are known through June 30 of each year and those rates are listed in this schedule.

The living wage rates listed in this schedule may not include all hourly wage calculations for overtime, shift differential, Holiday, Saturday, Sunday or other premium time work. Similarly, this schedule does not set forth every living wage practice with which employers must comply.

Some of the rates in this schedule are based on collective bargaining agreements. These agreements are available for inspection by appointment. Requests for appointments may be made by calling (212) 669-4443, Monday through Friday between the hours of 9 a.m. and 5 p.m.

Answers to questions concerning prevailing wage practices may be obtained from the Classification Unit by calling (212) 669-7974. Please direct all other compliance issues to; Bureau of Labor Law, Attn: Wasyl Kinach, P.E., Office of the Comptroller, 1 Centre Street, Room 1122, New York, N.Y. 10007; Fax (212) 669-4002.

Contractors are solely responsible for maintaining original payroll records, which delineate, among other things, the hours each employee worked within a given classification. Contractors using rates and/or classifications not promulgated by the Comptroller do so at their own risk. Additionally, prior to bid, an agency's chief contracting officer must contact the Bureau of Labor Law to obtain a wage determination for a work classification not published in this schedule.

The information listed below is intended to assist you in meeting your living wage and prevailing wage obligation. Contractors are advised to review the Comptroller's Living Wage Schedule prior to submitting a bid for City work. Any wage rate error made by the contracting agency in the contract documents will not preclude a finding against the contractor for an underpayment of the applicable living wage or the applicable prevailing wage.

This schedule sets forth the living wage and benefit rates required to be annexed to and form part of the contract specifications for work covered by New York City Administrative Code § 6-109. Contractors performing such work are required to pay not less that the rates specified in this schedule for the applicable trade or occupation.

Benefits are paid for *EACH HOUR WORKED* unless otherwise noted.

Wasyl Kinach, P.E.
Director of Classifications
Bureau of Labor Law

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BUILDING CLEANER AND MAINTAINER (OFFICE)

For the above building service classification, see the Labor Law Section 230 Schedule.

BUILDING CLEANER AND MAINTAINER (RESIDENTIAL)

For the above building service classification, see the Labor Law Section 230 Schedule.

CLEANER (PARKING GARAGE)

For the above building service classification, see the Labor Law Section 230 Schedule.

DAY CARE SERVICES

Day Care Services

'Day Care Services' means provision of day care services through the city's center-based day care program administered under contract with the city's Administration for Children's Services. No other day care programs shall be covered, including family-based day care programs administered by city-contracted day care centers.

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $10.00
Supplemental Benefit Rate per Hour: $1.50

(NYC Administrative Code §6-109)

FOOD SERVICE EMPLOYEES

Cook

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $15.62
Supplemental Benefit Rate per Hour: $1.72

Cafeteria Attendant

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $10.48
Supplemental Benefit Rate per Hour: $1.72

Counter Attendant

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $9.95
Supplemental Benefit Rate per Hour: $1.72

Kitchen Helper / Dishwasher

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $9.60
Supplemental Benefit Rate per Hour: $1.72

Overtime

Time and one half the regular hourly rate after 40 hours in any work week.

(Based on data from NYS Department of Labor Occupational Employment Statistics and US Department of Labor Bureau of Labor Statistics)

GARDENER

For the above building service classification, see the Labor Law Section 230 Schedule.

HEAD START SERVICES

Head Start Services

'Head Start Services' means provision of head start services through the city's center-based head start program administered under contract with the city's Administration for Children's Services. No other head start programs shall be covered.

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $10.00
Supplemental Benefit Rate per Hour: $1.50

(NYC Administrative Code §6-109)

HOMECARE SERVICES

Home Care Services

'Homecare Services' means the provision of homecare services under the city's Medicaid Personal Care/Home Attendant or Housekeeping Programs, including but not limited to the In-Home Services for the Elderly Programs administered by the Department for the Aging.
For homecare services provided under the Personal Care Services program, the wage and supplemental benefit rate above shall apply only as long as the state and federal government maintain their combined aggregate proportionate share of funding and approved rates for homecare services in effect as of the date of the enactment of this section.
For contractors or subcontractors providing homecare services, the supplemental benefit rate may be waived by the terms of a bona fide collective bargaining agreement with respect to employees who have never worked a minimum of eighty (80) hours per month for two consecutive months for that covered employer, but such provision may not be waived for any employee once a minimum of eighty (80) hours for two consecutive months has been achieved.

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $10.00
Supplemental Benefit Rate per Hour: $1.50

(NYC Administrative Code §6-109)

SECURITY GUARD (ARMED)

For the above building service classification, see the Labor Law Section 230 Schedule.

SECURITY GUARD (UNARMED)

For the above building service classification, see the Labor Law Section 230 Schedule.

SERVICES TO PERSONS WITH CEREBRAL PALSY

Services To Person With Cerebral Palsy

'Services to Persons with Cerebral Palsy' means provision of services which enable persons with cerebral palsy and related disabilities to lead independent and productive lives through an agency that provides health care, education, employment, housing and technology resources to such persons under contract with the city or the department of education.

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $10.00
Supplemental Benefit Rate per Hour: $1.50

(NYC Administrative Code §6-109)

TEMPORARY OFFICE SERVICES

Administrative Assistant

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $32.83
Supplemental Benefit Rate per Hour: None

Cashier

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $11.50
Supplemental Benefit Rate per Hour: None

Clerk (various)

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $14.86
Supplemental Benefit Rate per Hour: None

Computer Assistant

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $21.23
Supplemental Benefit Rate per Hour: None

Data Entry Operator

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $16.21
Supplemental Benefit Rate per Hour: None

Receptionist

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $14.88
Supplemental Benefit Rate per Hour: None

Secretary (various)

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $18.66
Supplemental Benefit Rate per Hour: None

Word Processor

Effective Period: 7/1/2013 - 6/30/2014
Wage Rate per Hour: $20.02
Supplemental Benefit Rate per Hour: None

Overtime
Time and one half the regular hourly rate after 40 hours in any work week.

(Based on data from NYS Department of Labor Occupational Employment Statistics and US Department of Labor Bureau of Labor Statistics or NYC Administrative Code §6-109)

WINDOW CLEANER

For the above building service classification, see the Labor Law Section 230 Schedule.

THE CITY OF NEW YORK
OFFICE OF THE COMPTROLLER
1 CENTRE STREET ROOM 1120
NEW YORK, N.Y. 10007-2341

TELEPHONE: (212) 669-362
FAX NUMBER: (212) 669-849

Leonard A. Mancusi
SENIOR ASSISTANT COMPTROLLER

ALAN G. HEVESI
COMPTROLLER

MEMORANDUM

November 6, 2000

To *Agency Chief Contracting Officers*

From: *Leonard A. Mancusi*

Re: *Security at Construction Sites*

Prior to the enactment of Administrative Code §6-109, security guards on construction sites were not subject to prevailing wages. Security guards under the New York State labor law are covered under §230 which provides that prevailing wages are to be paid for security guards in existing buildings. §6-109 of the Administrative Code which was enacted in 1996 closed this loophole by including all security guards working pursuant to a city contract as a prevailing wage trade.

Although some construction contract boilerplate language has been amended to include §6-109, sub-contractors performing security services have advised us that they were not aware of this provision and, since traditionally, security guards were not a covered trade on construction sites, and they were not advised by a prime contractor that they would have to pay prevailing wages, they have not been doing so.

To avoid the possibility of issuing stop payments against prime contractors for the failure of their security service sub-contractors to pay

prevailing wages, we suggest that you write to all your existing security guard sub-contractors and their primes and in the future, upon approval of a security guard sub-contractor, advise the contractors of their obligation to pay prevailing wages under §6-109 of the Administrative Code.

As always, your cooperation is appreciated.

LAM:er
ACCO.SECURITY AT SITES

NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

INFRASTRUCTURE DIVISION
BUREAU OF DESIGN

VOLUME 2 OF 3

PROJECT ID: P-USTA1

USTA UN AVENUE
CONNECTOR ROAD
RELOCATION

MERIDIAN ROAD - FROM EXISTING CONNECTOR ROAD TO
QUEENS MUSEUM OF ART
NEW CONNECTOR ROAD - FROM MERIDIAN ROAD TO
UNITED NATIONS AVENUE N

INCLUDING MERIDIAN ROAD WIDENING, NEW CONNECTOR ROAD,
SEWER, WATER MAIN, CATCH BASIN, ELECTRICAL,
TELECOMMUNICATION, STREET LIGHTING,
AND LANDSCAPE WORK

Together With All Work Incidental Thereto
BOROUGH OF QUEENS
CITY OF NEW YORK

NY Asphalt INC.

Contractor.

Dated _____, **20**____

APPROVED AS TO FORM
CERTIFIED AS TO LEGAL AUTHORITY

Acting Corporation Counsel 9/4/13

Dated September 4, **20**13

NEW YORK CITY DEPARTMENT OF DESIGN + CONSTRUCTION

THE CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF INFRASTRUCTURE

30-30 THOMSON AVENUE
LONG ISLAND CITY, NEW YORK 11101-3045
TELEPHONE (718) 391-1000
WEBSITE www.nyc.gov/buildnyc

VOLUME 3 OF 3

SCHEDULE A
ADDENDA NOS. 1 TO 5

FOR FURNISHING ALL LABOR AND MATERIALS NECESSARY AND REQUIRED FOR:

PROJECT ID: P-USTA1

USTA UN AVENUE CONNECTOR ROAD RELOCATION

MERIDIAN ROAD – FROM EXISTING CONNECTOR ROAD TO QUEENS MUSEUM OF ART
NEW CONNECTOR ROAD – FROM MERIDIAN ROAD TO UNITED NATIONS AVENUE N

INCLUDING MERIDIAN ROAD WIDENING, NEW CONNECTOR ROAD, SEWER, WATER MAIN, CATCH BASIN, ELECTRICAL, TELECOMMUNICATION, STREET LIGHTING, AND LANDSCAPE WORK

Together With All Work Incidental Thereto
BOROUGH OF QUEENS
CITY OF NEW YORK

FOR THE DEPARTMENT OF PARKS AND RECREATION
PREPARED BY
PARSONS BRINCKERHOFF

AUGUST 12, 2013

14-025

SPECIFICATIONS AND STANDARDS OF NEW YORK CITY

The following NYC Department of Transportation reference documents are available on-line at:
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 Cruz, Tel. (212) 839-9434

1. New York City Standard Highway Specifications, November 1, 2010
2. New York City Standard Highway Details of Construction, July 1, 2010
3. New York City Division of Street Lighting Specifications
4. New York City Division of Street Lighting Standard Drawings
5. New York City Standard Specifications for Traffic Signals
6. New York City Standard Drawings for Traffic Signals

The following reference documents for Sewer Work are available on-line at: 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. William Patalano, Tel. (718) 391-2054

1. New York City DEP Standard Sewer Specifications, August 1, 2009
2. New York City DEP Instructions for Concrete Specifications, Jan. 92
3. New York City DEP General Specification 11-Concrete, November 1991
4. New York City DEP Sewer Design Standards, (September 2007) Revised January 2009

The following reference documents for Water Mains Work are available on-line at: 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. New York City Department of Environmental Protection, Standard Water Main Specifications, dated August 1, 2009
2. New York City Department of Environmental Protection Water Main Standard Drawings
3. Specifications for Trunk Main Work, dated March 2012
4. Standards for Green Infrastructure, dated July 16, 2013

The 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)

SCHEDULE "A"

REFERENCE	ITEM	REQUIREMENTS
Section 26 Information for Bidders	Bid Security	See Attachment 1 (page A-1 of the Bid Booklet).
	Performance Security Payment Security	See Attachment 1 (page A-1 of the Bid Booklet).
Article 14 Contract	Date for Substantial Completion	See Page SA-2
Article 15 Contract	Liquidated Damages	For Each Consecutive Calendar Day Over Completion Time: $1,500.00
Article 17 Contract	Subcontracts	Not to Exceed 50% of Contract Price
Article 24 Contract	Deposit as Guarantee	Percent of Contract Price 1%
	Maintenance Period	Eighteen (18) Months, excluding Trees Twenty-four (24) Months for Tree Planting
Article 77 Contract	M/WBE Program	See Subcontract Utilization Plan in the Bid Booklet
Section 6.40 Standard Highway Specifications	Liquidated Damages For Engineer's Field Office	For Each Calendar Day of Deficiency $250.00 If the Contractor fails to satisfactorily provide the field office and all equipment specified in **Section 6.40 - Engineer's Field Office**, and/or if a cited deficiency exceed seventy two (72) hours after notice from the Engineer in writing, or is permitted to recur, liquidated damages will be assessed in the amount specified herein for each subsequent calendar day or part thereof that a cited deficiency resulting in nonpayment, as described in **Section 6.40.5**, is not corrected.
Section 6.70 Standard Highway Specifications	Liquidated Damages For Maintenance and Protection of Traffic	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: $250.00 For each and every hour of failing to open the entire width of roadway to traffic the morning following a night/weekend work operation: $500.00

Section 7.13 Standard Highway Specifications	Liquidated Damages For Maintenance of Site	For Each Calendar Day, For Each Occurrence: $250.00
	If the Contractor fails to comply, within three (3) consecutive hours after written notice from the Engineer, with the requirements of **Section 7.13 - Maintenance of Site**, the Contractor shall pay to the City of New York, until such notice has been complied with or rescinded, the sum specified above per calendar day, for each instance of such failure, as liquidated damages and not as a penalty, for such default.	

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 210 consecutive calendar days ("ccds").

The Final Contract Duration shall be the Base Contract Duration when a check mark is indicated before the word "NO", below, and shall be the Base Contract Duration adjusted by the table set forth below when a check mark is indicated before the word "YES", below.

√ YES _____ NO

When the Final Contract Duration is indicated above to be adjusted by the table below, the table may increase the Base Contract Duration depending on the date of scheduled substantial completion to avoid a scheduled substantial completion of the Work during the winter months. The date of scheduled substantial completion shall be determined by adding the Base Contract Duration to the date specified to commence work in the written Notice to Proceed. The Final Contract Duration shall then be determined as follows:

(a) Find the row that corresponds to the month of substantial completion based on the Base Contract Duration added to the date specified to commence work in the written Notice to Proceed.

(b) Find the number of days to be added to the Base Contract Duration in the table below. Add that number of days to the Base Contract Duration to obtain the Final Contract Duration in consecutive calendar days.

Month of Substantial Completion based on the Base Contract Duration	Number of Days of adjustment
January	150
February	120
March	90
April	60
May	30
June	0
July	0
August	0
September	0
October	0
November –December 15	0
December 16 – December 31	180

In addition, should Item No. 9.30, "Storm Water Pollution Prevention," exist in the Contract and the required Storm Water Pollution Prevention Plan (SWPPP) does not conform to NYSDEC's recommended Standards, an additional 60 ccd shall be added to the above Final Contract Duration.

SCHEDULE A

(RELATING TO ARTICLE 22 – INSURANCE)

PART I. MINIMUM LIMITS AND SPECIAL CONDITIONS

Insurance indicated by a blackened box (■) or by X in a ☐ to left will be required under this contract

Types of Insurance (per Article 22 in its entirety, including listed paragraph)	Minimum Limits and Special Conditions
■ Commercial General Liability Art. 22.1.1	$3,000,000 per occurrence $6,000,000 aggregate (applicable separately to this **Project**) Additional Insureds: 1. City of New York, including its officials and employees, and

SCHEDULE A

(RELATING TO ARTICLE 22 – INSURANCE)

(PART I CONTINUED)

Insurance indicated by a blackened box (■) or by X in a ☐ to left will be required under this contract

Types of Insurance (per Article 22 in its entirety, including listed paragraph)	Minimum Limits and Special Conditions
■ Workers' Compensation Art. 22.1.2 ■ Disability Benefits Insurance Art. 22.1.2 ■ Employers' Liability Art. 22.1.3 ☐ Jones Act Art. 22.1.4 ☐ U.S. Longshoremen's and Harbor Workers Compensation Act Art. 22.1.4	Workers' Compensation: Statutory per New York State law without regard to jurisdiction Disability Benefits Insurance: Statutory per New York State law without regard to jurisdiction Employers' Liability: $2,000,000 each accident Additional Requirements: 1. _____
☐ Builders' Risk Art. 22.1.5	_____ % of total value of **Work** City of New York and the **Contractor** named as Loss Payee for the **Work** in order of precedence, as their interests may appear

SCHEDULE A

(RELATING TO ARTICLE 22 – INSURANCE)

(PART I CONTINUED)

Insurance indicated by a blackened box (■) or by X in a ☐ to left will be required under this contract

Types of Insurance (per Article 22 in its entirety, including listed paragraph)	Minimum Limits and Special Conditions
■ Comprehensive Business Auto Coverage Art. 22.1.6	$2,000,000 per accident If vehicles are used for transporting hazardous materials, the Contractor shall provide pollution liability broadened coverage for covered autos (endorsement CA 99 48) as well as proof of MCS 90. Additional Insureds: 1. City of New York, including its officials and employees, and
☐ Pollution/Environmental Liability Art. 22.1.7	$ 5,000,000 per occurrence $ 5,000,000 aggregate Additional Insureds: 1. City of New York, including its officials and employees, and 2. _____ 3. _____
☐ Marine Protection and Indemnity Art. 22.1.8(a)	$_____ per occurrence $_____ aggregate Additional Insureds: 1. City of New York, including its officials and employees, and 2. _____ 3. _____

SCHEDULE A

(RELATING TO ARTICLE 22 – INSURANCE)

(PART I CONTINUED)

Insurance indicated by a blackened box (■) or by X in a ☐ to left will be required under this contract

Types of Insurance (per Article 22 in its entirety, including listed paragraph)	Minimum Limits and Special Conditions
☐ Ship Repairers Legal Liability Art. 22.1.8(b)	$_____ each occurrence [Contracting agency to fill in total value of City vessels involved]
☐ Collision Liability/Towers Liability Art. 22.1.8(c)	$_____ per occurrence $_____ aggregate Additional Insureds: 1. City of New York, including its officials and employees, and 2. _____ 3. _____
☐ Marine Pollution Liability Art. 22.1.8(d)	$ 1,000,000 each occurrence Additional Insureds: 1. City of New York, including its officials and employees, and 2. _____ 3. _____

SCHEDULE A

(RELATING TO ARTICLE 22 – INSURANCE)

(PART I CONTINUED)

Insurance indicated by a blackened box (■) or by X in a ☐ to left will be required under this contract

Types of Insurance (per Article 22 in its entirety, including listed paragraph)	Minimum Limits and Special Conditions
[OTHER] Art. 22.1.9	
☐ Railroad Protection Liability Policy (ISO-RIMA or equivalent form) approved by Permittor covering the work to be performed at the designated site and affording protection for damages arising out of bodily injury or death, physical damage to or destruction of property, including damage to the Insured's own property and conforming to the following: • Policy Endorsement CG 28 31 - Pollution Exclusion Amendment is required to be endorsed onto the policy when environmental-related work and/or exposures exist. • Indicate the Name and address of the Contractor to perform the work, the Contract # and the name of the railroad property where the work is being performed and the Agency Permit. • Evidence of Railroad Protective Liability Insurance, must be provided in the form of the Original Policy. A detailed Insurance Binder (ACORD or Manuscript Form) will be accepted pending issuance of the Original Policy, which must be provided within 30 days of the Binder Approval.	$2,000,000 per occurrence $6,000,000 annual aggregate Named Insureds: 1. New York City Transit Authority (NYCTA), the Manhattan and Bronx Surface Transit Operation Authority (MaBSTOA), the Staten Island Rapid Transit Operation Authority (SIRTOA), MTA Capital Construction Co., the Metropolitan Transportation Authority (MTA) including its subsidiaries and affiliates, the City of New York (as Owner) and all other indemnified parties.

SCHEDULE A

(RELATING TO ARTICLE 22 – INSURANCE)

(PART I CONTINUED)

Insurance indicated by a blackened box (■) or by X in a ☐ to left will be required under this contract

[OTHER] Art. 22.1.9

■ Professional Liability

(A) The Contractor's Professional Engineer shall maintain and submit evidence of Professional Liability Insurance in the minimum amount of $1,000,000 per Claim. The policy or policies shall include an endorsement to cover the liability assumed by the Contractor under this Contract arising out of the negligent performance of professional services or caused by an error, omission or negligent act of the Contractor's Professional Engineer or anyone employed by the Contractor's Professional Engineer.

(B) Claims-made policies will be accepted for Professional Liability Insurance. All such policies shall have an extended reporting period option or automatic coverage of not less than two (2) years. If available as an option, the Contractor's Professional Engineer shall purchase extended reporting period coverage effective on cancellation or termination of such insurance unless a new policy is secured with a retroactive date, including at least the last policy year.

[OTHER] Art. 22.1.9	
■ Engineer's Field Office **Section 6.40, Standard Highway Specifications**	Fire insurance, extended coverage and vandalism, malicious mischief and burglary, and theft insurance coverage in the amount of $40,000.

[OTHER] Art. 22.1.9

■ The Following Additional Insurance Must Be Provided:

Umbrella/Excess Liability Insurance - The Contractor shall provide Umbrella/Excess Liability Insurance in the minimum amount of $10,000,000 per Occurrence and $10,000,000 in Aggregate. The policy terms and condition should be at least as broad as the underlying policies. The underlying policies should comply with the insurance provision as outlined by the contract. Defense cost should be in addition to the limit of liability. The City of New York, including its officials and employees, should be included as additional insured as respects to the noted project.

SCHEDULE A

(RELATING TO ARTICLE 22 – INSURANCE)

PART II. BROKER'S CERTIFICATION

[Pursuant to Article 22.3.1(a) of the **Contract**, every Certificate of Insurance must be accompanied by either the following certification by the broker setting forth the following text and required information and signatures or complete copies of all policies referenced in the Certificate of Insurance. In the absence of completed policies, binders are acceptable.]

CERTIFICATION BY BROKER

The undersigned insurance broker represents to the City of New York that the attached Certificate of Insurance is accurate in all material respects, and that the described insurance is effective as of the date of this Certification.

_____
[Name of broker (typewritten)]

_____
[Address of broker (typewritten)]

_____
[Signature of authorized official or broker]

_____
[Name and title of authorized official (typewritten)]

Sworn to before me this
_____ day of _____, 200_

_____
NOTARY PUBLIC

SCHEDULE A

(RELATING TO ARTICLE 22 – INSURANCE)

PART III. 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

ATTACH TO CONTRACT DOCUMENTS

THE CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
INFRASTRUCTURE DIVISION
BUREAU OF DESIGN

PROJECT ID: P-USTA1

USTA UN AVENUE
CONNECTOR ROAD
RELOCATION

MERIDIAN ROAD - FROM EXISTING CONNECTOR ROAD TO
QUEENS MUSEUM OF ART
NEW CONNECTOR ROAD - FROM MERIDIAN ROAD TO
UNITED NATIONS AVENUE N

INCLUDING MERIDIAN ROAD WIDENING, NEW CONNECTOR ROAD,
SEWER, WATER MAIN, CATCH BASIN, ELECTRICAL,
TELECOMMUNICATION, STREET LIGHTING,
AND LANDSCAPE WORK

Together With All Work Incidental Thereto
BOROUGH OF QUEENS
CITY OF NEW YORK

ADDENDUM NO. 1

DATED: September 4, 2013

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.
3. New Sections
4. Special Provisions

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."

[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 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;"

[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."

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 pigmenting 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.

'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**."

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 ± 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."

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."

26. Refer to Page 183, **Subsection 4.05.9. PRICES TO COVER**, 4th 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."

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."

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 Lumins, 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

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)."

[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. Refer to Page 394, Subsection 6.52.3. METHODS;
    Insert the following new sentence to the end of the third paragraph:

"However, on Federally Funded Projects all uniformed full-time flagpersons paid under this item, irrespective of where they are used in Examples #1 and #2, shall be deemed to be Laborers and shall not be paid less than the highest minimum hourly rate as set forth by Federal, State or City laws."

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.

(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.

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.

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.

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.

(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

[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.

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: Taber Abrasion resistance	ASTM D-4060 7 day cure, H-10 wheel (wet test)	< 5.0 g/1000
Water sensitivity	ASTM D-570 Water absorption after 9 days: Remaining absorption after 1 hour of recovery:	 < 10% < 1.0%
Color stability	ASTM G-155 QUV 2,000 hours (CIE units)	New York City Bike Lane Green $\Delta E < 1.5$
Color stability	ASTM G-155 QUV 2,000 hours (CIE units)	Brick color $\Delta E < 1.5$

Flexibility: Mandrel Bend	ASTM D-522-93A Flexibility as measured by Mandrel bend 0.5mm thick sample passes 10 mm at 21˚C 0.5mm thick sample passes 125mm at -18˚C	
Chemical resistance	ASTM D-2486 Modified MEK scrubs 16 dry mils, number of scrubs until 50% substrate exposed	>5000
Adhesion to Asphalt	ASTM D-4541	Substrate Failure
Friction Wet	ASTM E-303 British Pendulum Tester	>55
Environmental Sensitivity	EPA 24 ASTM D-3960-05 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.

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.

(NO TEXT ON THIS PAGE)

3. NEW SECTIONS

SECTION 4.02 I
Asphalt Concrete Paving,
Type I-1 and I-4

PART 1. GENERAL

4.02I.1.01. SUMMARY.

A. This Section specifies requirements for plant mix macadam base course, bottom course, top course, tack coat and overlay of existing pavement with performance graded asphalt specified in 4.02I.2.02.B.

B. Except as in 4.02I.1.01.C. below, recycled asphalt concrete pavement (consisting of reclaimed asphalt pavement blended with new materials) may be used to the maximum percentages specified in 4.02I.1.04.C.2.b.

C. Recycled asphalt concrete shall not be used in mixes where modified asphalts are used.

4.02I.1.02. REFERENCES. The following is a listing of the publications referenced in this Section:

American Association of State Highway and Transportation Officials (AASHTO)

AASHTO M320	Performance Graded Asphalt Binder
AASHTO R28	Practice for Accelerated Aging of Asphalt Binder Using a Pressurized Aging Vessel (PAV)
AASHTO T313	Test Method for Determining the Flexural Creep Stiffness of Asphalt Binder Using the Bending Beam Rheometer (BBR)
AASHTO T315	Test Method for Determining the Rheological Properties of Asphalt Binder Using a Dynamic Shear Rheometer (DSR)
AASHTO T48	Flash and Fire Points by Cleveland Open Cup
AASHTO T240	Effect of Heat and Air on a Moving Film of Asphalt (Rolling Thin Film Oven Test)

American Society for Testing and Materials (ASTM)

ASTM C 88	Test Method For Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate
ASTM C 117	Test Method for Materials Finer than 75-micrometres (No. 200) Sieve in Mineral Aggregates by Washing
ASTM C 127	Test Method for Specific Gravity and Absorption of Coarse Aggregate
ASTM C 128	Test Method for Specific Gravity and Absorption of Fine Aggregate
ASTM C 131	Test Method for Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine
ASTM C 136	Test Method for Sieve Analysis of Fine and Coarse Aggregates
ASTM C 566	Test Method for Total Moisture Content of Aggregate by Drying

ASTM C 1252	Test Methods for Uncompacted Void Content of Fine Aggregate (as Influenced By Particle Shape, Surface Texture, and Grading)
ASTM D 75	Practice for Sampling Aggregates
ASTM D 242	Mineral Filler for Bituminous Paving Mixtures
ASTM D 692	Coarse Aggregate for Bituminous Paving Mixtures
ASTM D 979	Practice for Sampling Bituminous Paving Mixtures
ASTM D 995	Mixing Plants for Hot-Mixed, Hot-Laid Bituminous Paving Mixtures
ASTM D 1073	Fine Aggregate for Bituminous Paving Mixtures
ASTM D 2041	Test Method for Theoretical Maximum Specific Gravity and Density of Bituminous Paving Mixtures
ASTM D 2172	Test Methods for Quantitative Extraction of Bitumen from Bituminous Paving Mixtures
ASTM D 2419	Test Method for Sand Equivalent Value of Soils and Fine Aggregate
ASTM D 2726	Test Method for Bulk Specific Gravity and Density of Non-Absorptive Compacted Bituminous Mixtures
ASTM D 3203	Test Method for Percent Air Voids in Compacted Dense and Open Bituminous Paving Mixtures
ASTM D 3549	Test Method for Thickness or Height of Compacted Bituminous Paving Mixture Specimens
ASTM D 3666	Minimum Requirements for Agencies Testing and Inspecting Bituminous Paving Materials
ASTM D 4125	Test Methods for Asphalt Content of Bituminous Mixtures by the Nuclear Method
ASTM D 4318	Test Method for Liquid Limit, Plastic Limit, and Plasticity Index of Soils
ASTM D 4402	Method for Viscosity Determinations of Unfilled Asphalt Using the Brookfield Thermosel Apparatus
ASTM D 4791	Test Method for Flat Particles, Elongated Particles, or Flat and Elongated Particles in Coarse Aggregate
ASTM D 4867	Effect of Moisture on Asphalt Concrete Paving Mixtures
ASTM D 5444	Test Method for Mechanical Size Analysis of Extracted Aggregate
ASTM D 5821	Test Method for Determining the Percentage of Fractured Particles in Course Aggregate
ASTM D 5976	Type I Polymer Modified Asphalt Cement for Use in Pavement Construction
ASTM D 6084	Method for Elastic Recovery of Bituminous Materials by Ductilometer
ASTM D 6307	Test Method for Asphalt Content of Hot-Mix Asphalt by Ignition Method
ASTM D 6926	Test Method for Preparation of Bituminous Specimens Using Marshall Apparatus

ASTM D 6927 Test Method for Marshall Stability and Flow of Bituminous Mixtures

ASTM E 178 Practice for Dealing with Outlying Observations

ASTM E 950 Test Method for Measuring the Longitudinal Profile of Traveded Surface with an Accelerometer Established Internal Provile Reference

ASTM E 1274 Test Method for Measuring Pavement Roughness Using a Profilograph

Asphalt Institute - Manual Series

MS-2 Mix Design Methods for Asphalt Concrete, and Other Hot-Mix Types

MS-20 Asphalt Hot-Mix Recycling

Dept. of Transportation - Federal Aviation Administration (FAA)

Eastern Region Laboratory Procedures Manual (ERLPM) March, 1994

Standards for Specifying Construction of Airports

P-401 Plant Mix Bituminous Pavements

4.02I.1.03. DESIGN AND PERFORMANCE REQUIREMENTS.

A. Job Conditions

1. Apply tack coat only when the base surface is dry and the ambient temperature in shade has not been below 32 degrees F for 12 hours immediately prior to application, unless otherwise approved by the Engineer.

2. Do not place asphalt concrete upon a wet or frozen surface.

3. The minimum laydown temperature shall be not less than 310°F, when the base temperature is below 50°F and not less than 275°F when the base temperature is 50°F or greater. The Engineer will measure the temperature of the asphalt concrete in the truck at the paver.

4. The minimum allowable base temperature for a lift thickness is shown in the following table:

Nominal Lift thickness (inches)	Minimum Allowable Base Temperature (Degrees F)
2 or greater	32
1-1/2 or greater, but less than 2	40
Less than 1-1/2	50

5. If nominal lift thickness is two inches or greater and the base temperature is below 32°F, the Engineer may approve paving operations if the Contractor can demonstrate, prior to commencing with paving, that density and mat texture uniformity can be achieved. All other requirements apply.
6. In case of sudden rain, the Engineer may at his sole discretion permit placing of mixture already in transit from the plant, provided the surface to be paved is free from pools of water and laydown temperatures conform to the above tabulation. Such permission, however, shall not be interpreted as a waiver of any of the quality requirements.

B. Asphalt Concrete Mix Design

1. Design asphalt concrete job mix formula based on the "Mix Design Table" specified in 4.02I.2.03.A and specimen compaction temperature specified in 4.02I.1.04.E.3

2. Design top and bottom courses to the following target values:

	Bottom Course	Top Course	
Design Properties	Mix 1[1]	Mix 2	Mix 3
Marshall Stability, lbs. @ 75 Blows (ASTM D 6927)	2150 min.	2150 min.	2150 min.
Flow Value, 0.01 inch gradation (ASTM D 6927)	8 - 16	8 - 16	8 - 16
Air Voids, Percent[2] (ASTM D 3203)	3.8 - 5.2	2.8 - 4.2	2.8 - 4.2
Percent Voids Filled With Bitumen	65 - 75	67 - 77	67 - 77
Voids in the Mineral Aggregate (VMA) Minimum %	12	13	14

3. Plant mix macadam base course shall be a mixture designed within the gradation limits specified in 4.02I.2.03.A.

4. The design job mix formula shall indicate definite percentages passing for each sieve fraction of aggregate and the asphalt content.

5. Design new job mix formula for each asphalt plant used, whenever there is a change in material or when field conditions dictate a need for redesign.

6. When required by the Engineer, determine the tensile strength ratio of specimens of the composite paving mixture by procedures specified in ASTM D 4867. The value shall be not less than 80 percent.

C. Plant Production Requirements

1. The asphalt concrete mixture or its components shall not be heated to a temperature outside the limits specified in 4.02I.3.02.A.

2. Plant production tolerance limits for Marshall Stability and flow value are as follows:

Marshall Stability at 75 blows (ASTM D6927) – 1800 lbs. min.[3]

Flow Value, 0.01 inch gradation (ASTM D 6927) - 8 to 16.[3]

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1 *For asphalt concrete mixes with five percent of the aggregate or greater retained on the 1" sieve, the Engineer may require the use of six inch molds to increase the repeatability of Marshall test results. For six inch molds Marshall stability shall be 4800 lbs. minimum at 113 blows with 22.5 lb. hammer and 18 inch drop and the flow value shall be within the 12 to 24 range.*

2 *Determine by comparing bulk specific gravity (ASTM D 2726) to maximum specific gravity (ASTM D 2041).*

3 *If six inch molds are required as set forth in 4.02I.1.03.B.2 Marshall stability shall be 4000 lbs. minimum at 113 blows with 22.5 lb. hammer, 18 inch drop and the flow value shall be within the 12 to 24 range.*

Acceptance shall be on a lot basis as set forth in 4.02I.1.04.E.3. The acceptance of each lot shall be

based on the Percent of Material Within Tolerance Limits (PWL), as set forth in 4.02I.4.03 B.5. If the PWL of the lot for either parameter is less than 90 percent, the Contractor shall take corrective actions as set forth in 4.02I.3.03.C.

3. Modified Asphalt Performance Grade

Modified asphalt shall meet the performance grade requirements set forth in 2.02 B, when tested in accordance with 4.02I.1.04.E.12. When material fails to meet the requirements, make corrections in accordance with 4.02I.3.03.E.

4. Marshall Air Voids

Targets for Marshall air voids are 4.5 percent for mix 1, and 3.5 percent for mixes 2 and 3. Acceptance shall be on a lot basis as specified in 4.02I.1.04.E.3. The acceptance of each lot shall be based on the Percent of Material Within Tolerance Limits (PWL) as set forth in 4.02I.4.03.B.5. Adjustment to contract compensation shall be made if the PWL of the lot is less than 90 percent as set forth in 4.02I.4.03.C. If the PWL of the lot equals or exceeds 90 percent and the PWL for pavement mat and joint densities for the lot equals or exceeds 90 percent, the percentage adjustment to compensation may be between 100 and 106 as set forth in 4.02I.4.03.C.

The tolerance limits for Mix 1 are 3.0 and 6.0 percent, and for Mixes 2 and 3 are 2 and 5 percent.

D. In-Place Pavement Requirements

1. Surface Smoothness

a. Final surface shall be smooth and free from roller marks and irregularities greater than 1/4 inch when tested with a 16-foot straight edge. Testing and acceptance shall be on a lot basis as set forth in 4.02I.1.04.E.10.b. Make corrections for deficiencies in surface smoothness as set forth in 4.02I.3.03.A.

b. Each surface shall conform to the lines and grades shown on the Contract Drawings within a tolerance of plus or minus 0.045 foot, except where closer tolerance is required for proper functioning of appurtenant structures and drainage. Surface grade shall be tested in accordance with 4.02I.1.04.D.8.

2. Density

a. In-Place Mat Density

The target for in-place mat density shall be 98 percent or better. Acceptance shall be on a lot basis as set forth in 4.02I.1.04.E.5. The acceptance of each lot will be based on the Percent of Material Within Tolerance Limits (PWL), as set forth in 4.02I.4.03.B.5. Adjustment to contract compensation will be made based on the PWL of the lot as set forth in 4.02I.4.03.C. The lower tolerance limit for pavement mat density is 96.3 percent.

b. In-Place Joint Density

The target for in-place joint density shall be 97 percent or better. Acceptance will be on a lot basis as set forth in 4.02I.1.04.E.6. The acceptance of each lot will be based on the Percent of Material Within Tolerance Limits (PWL), as set forth in 4.02I.4.03.B.5. Adjustment to contract compensation will be made based on the PWL of the lot for surface course only as set forth in 4.02I.4.03.F. The lower tolerance limit for pavement joint density is 94.3 percent.

c. Plant mix macadam base course shall have stone thoroughly interlocked, interstices reduced to a minimum and creeping of mixture no longer visible and with no further increase in density achievable by additional rolling.

3. Thickness

The Engineer will test for thickness only after all corrections for surface smoothness and final surface grade have been completed.

Pavement courses shall conform to thicknesses shown on the Contract Drawings within the following tolerances:

Course or Combination of Courses	Tolerance (in inches) Plus or Minus[4]
Thickness of top course	1/4
Total thickness of top course and bottom course	1/4
Total thickness of plant mix macadam base course, bottom course, and top course	1/4
Overlay thickness shall be as required to meet the final surface grade tolerance	--

4. Final Surface Grade

The final surface shall conform to the finished grades shown on the Contract Drawings within a target tolerance of plus or minus 0.04 foot, except where closer tolerance is required for proper functioning of appurtenant structures and drainage. The final surface abutting existing pavements shall smoothly transition to the existing surface grades. The Engineer will test the final surface, which he will accept or reject on a lot basis as set forth in 4.02I.1.04.E.11. For areas within the runway or taxiway edge markings, the Engineer will adjust contract compensation based on the percentage of grade measurements exceeding the target tolerance as set forth in 4.02I.4.03.D. For all areas when 15% or more of the grade measurements exceed the target grade tolerance or any individual measurement exceeds a 0.06 foot grade tolerance, make corrections for deficiencies in final surface grade as set forth in 4.02I.3.03.D.

5. In-Place Air Voids

Asphalt concrete shall have in-place mat air voids between 2.0 percent and 8.0 percent (9.0 percent for bottom course). The Engineer will test in-place air voids in accordance with 4.02I.1.04.E.7. When material fails to meet the requirements, correct in accordance with 4.02I.3.03.B.

4.02I.1.04. QUALITY CONTROL/ASSURANCE.

A. General

1. Establish and maintain effective quality control procedures which shall ensure that the materials and completed construction submitted for acceptance conform to Contract requirements whether manufactured or processed by the Contractor or procured from subcontractors or vendors.

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[4] *All measurements for this purpose shall be to the nearest 1/8th inch.*

2. Pre-Pavement Construction Meeting

   a. A pre-paving meeting will be conducted at the construction site by the Engineer a minimum of 20 days prior to the first day of laydown to discuss Contractor (suppliers) mixes, plant quality control, field quality control, tack coat, control strip, requirements for mat and joint densities, equipment –(rollers, material transfer unit and paver), smoothness and grade control, segregation, workmanship, quality assurance testing, incentive and disincentive criteria, and any other pertinent specified requirements.

      At no additional cost to the City, make arrangements for the project superintendent and a qualified Contractor's representative to be present at every segment of the paving operations, including but not limited to the following:

      (1) Asphalt Producer's Quality Control Manager

      (2) Contractor's representative for site quality control testing

      (3) Paving crew foreman

      (4) Smoothness testing personnel

      (5) Survey crew chief

   b. Record, type and distribute meeting minutes to all attendees of the meeting within 5 days of the date of the meeting.

   c. Do not schedule the pre-paving construction meeting until all submittals pertaining to the paving operation have been submitted and approved.

3. Provide the Engineer certification in writing stating that all of the testing equipment to be used is properly calibrated and will meet the specifications applicable for the specified test procedures. Upon Engineer's request, test samples to demonstrate an acceptable level of performance.

4. Perform quality control sampling, testing, and inspection during all phases of the work at rates sufficient to ensure that the work conforms to the contract requirements, and at minimum test frequencies required by 4.02I.1.04.D.

B. Quality Control Plan

1. Establish and maintain a Quality Control Plan (Plan) along with all the personnel, equipment, supplies and facilities necessary to obtain samples, perform and document tests and meet specification requirements. For Contracts requiring 5,000 tons of asphalt concrete or greater, the Plan is required. For Contracts requiring less than 5,000 tons of asphalt concrete, the Plan is optional.

2. Describe the Plan in a written document. Submit the written Plan to the Engineer for review and approval at least 28 calendar days prior to the start of paving operations.

3. In the absence of an approved Quality Control Plan the City will make no payments for materials which are subject to specific quality control.

4. The Plan may be carried out wholly or in part by the Contractor or by an independent organization but it shall in all cases remain the responsibility of the Contractor.

5. Plan Contents - The Plan shall be organized to address at least the following items:

   a. Quality control organization chart.

b. Area of responsibility and authority of each individual.

c. Names and qualifications of personnel as required by 4.02I.1.04.B.7.d.

d. A listing of any outside organizations such as testing laboratories that will be employed by the Contractor and a description of the services they will provide.

e. A testing plan which lists the tests required to be performed by the Contractor, the frequency of testing, sampling locations and the location of the testing facilities.

f. Procedures for ensuring that tests are taken in accordance with the testing plan, that they are documented and that proper corrective actions are taken when necessary.

g. Procedures for ensuring that testing equipment is available, that it complies with specified standards and that it has been calibrated against certified standards.

h. Procedures for verifying that tests are taken in accordance with the appropriate AASHTO and ASTM standards.

i. Procedures for daily submittal of test results to the Engineer.

j. An action plan detailing procedures to be used to correct unsatisfactory production processes and construction practices, when tests indicate materials are failing to meet specification for the following:

(1) Aggregate gradation

(2) Mat and joint density

(3) Marshall air voids

(4) Surface smoothness

(5) Grades

6. Plan Elements. The Plan shall address all elements which affect the quality of the pavement including but not limited to:

a. Mix Design

b. Aggregate Gradation

c. Quality of Materials

d. Stockpile Management

e. Proportioning/temperature control of mixture components

f. Mixing and Transportation

g. Placing and Finishing

h. Joints

i. Compaction

j. Surface smoothness and grades

7. Quality Control Organization

a. Implement the Quality Control Plan by the establishment of a separate Quality Control Organization. Develop and submit an organization chart to show all quality control personnel integrated with other management, production and construction functions and personnel.

b. The organization chart shall identify all quality control staff required to implement all elements of the quality control program, including inspection and testing functions for different items of work.

c. If an outside organization or independent testing laboratory is used for implementation of all or part of the Plan, the personnel assigned will be subject to the qualification requirements of this 4.02I.1.04B.7.d. The organization chart shall indicate which personnel are contractor employees and which are provided by an outside organization.

d. The Quality Control Organization shall consist of at least the following personnel:

(1) Plan Administrator

The Plan Administrator shall be an employee of the Contractor. The Plan Administrator shall have prior quality control experience on a project of size and scope comparable to this Contract. In addition, the Plan Administrator shall meet one of the following requirements:

(a.) A New York State Licensed Professional Engineer with one year of paving experience as approved by the Engineer.

(b.) Engineer-in-Training with two years of airport paving experience as approved by the Engineer.

(c.) An individual with three years of highway and/or airport paving experience as approved by the Engineer and with a Bachelor Degree in Civil Engineering, Civil Engineering Technology or Construction.

(d.) Construction Materials Technician certified at Level III by the National Institute for Certification in Engineering Technologies (NICET).

(e.) Highway Materials Technician certified at Level III by NICET.

(f.) Highway Construction Technician certified at Level III by NICET.

(g.) A NICET certified Engineering Technician in Civil Engineering Technology with 5 years of highway and/or airport paving experience as approved by the Engineer.

Certification at an equivalent level by a State or nationally recognized organization will be acceptable in lieu of NICET certification. The Plan Administrator shall have full authority to institute any and all actions necessary for the successful operation of the Plan to ensure compliance with the Specifications. The Plan Administrator shall report directly to a responsible officer in the Contractor's organization. The Administrator may supervise the Plan on more than one project provided that he can upon request be at the job site within one hour.

(2) Quality Control Technicians

Provide a sufficient number of Quality Control Technicians to adequately implement the Plan. Quality Control Technicians shall be engineers, engineering technicians or experienced craftsmen holding a current certificate issued by the New Jersey Society of

Asphalt Technologists, Inc. (NJSAT) or other Engineer-approved certifying agency or organization. (Information regarding the certification procedure can be obtained by contacting NJSAT.)

The Quality Control Technicians shall report directly to the Plan Administrator and shall perform the following functions:

(a.) Inspection of all plant equipment used in proportioning and mixing to ensure proper calibration and operating conditions.

(b.) Performance of quality control tests necessary or desirable to adjust and control mix proportioning in accordance with the job mix formula.

(c.) Inspection of all equipment used in placing, finishing and compacting material to ensure proper operating condition.

(d.) Inspection during construction to ensure that placement, joint construction and compaction is in conformance with the specifications and will produce a finished product that meets specification requirements.

(e.) Performance of all quality control testing as required by 4.02I.1.04.D, including density monitoring.

8. Testing Laboratory.

The Plan must provide for a fully equipped asphalt laboratory located at the plant or job site. It shall be available for joint use by the Contractor for quality control testing and by the Engineer for acceptance testing and must have adequate equipment for the performance of the tests required by these specifications. The Engineer shall have priority in use of the equipment necessary for acceptance testing.

The effective working area of the laboratory shall be a minimum of 250 square feet with a ceiling height of not less than 7.5 feet. Lighting shall be adequate to illuminate all working areas. It shall be equipped with heating and air conditioning units to maintain a temperature of 70°F + 5°F.

In addition to the equipment required for testing, the laboratory shall be equipped with a paper copier and facsimile machine to be utilized by the Engineer.

Keep laboratory facilities clean and maintain all equipment in proper working condition. Allow the Engineer unrestricted access to inspect the Contractor's laboratory facility and to witness quality control activities. The Engineer will advise the Contractor in writing of any noted deficiencies concerning the laboratory facility, equipment, supplies or testing personnel and procedures. When in the Engineer's opinion deficiencies may adversely affect test results, immediately suspend delivery and placement of asphalt materials and do not resume until the deficiencies are satisfactorily corrected.

9. Noncompliance.

In cases where quality control activities do not comply with either the Contractor's Quality Control Program or the Contract provisions, or where the Contractor fails to properly operate and maintain an effective Quality Control Program, the Engineer may:

a. Order the Contractor to replace ineffective or unqualified quality control personnel.

b. Carry out the functions and operations of the Contractor's approved Quality Control Program. Costs incurred by the Engineer to operate the Quality Control Program or to otherwise remedy the Contractor's non-compliance with quality related provisions of the Contract shall be deducted from the total amount due the Contractor.

C. Source of Aggregate and Sampling

1. Virgin Aggregate

a. Select sources of virgin aggregates well in advance of the time the materials are required for the construction. When the aggregates are obtained from a previously approved source, submit random hot bin samples, if requested by the DDC's Director of Quality Assurance & Construction Safety, a minimum of 14 calendar days prior to the start of production and if from a source not previously approved, submit random hot bin samples a minimum 45 calendar days prior to the start of production. Sampling of the hot bin materials for job mix formulation will be observed by the Engineer and identical samples will be obtained for verification of the job mix formulation by the Department's Quality Assurance Laboratory or their agents. The Engineer may require the proposed mix formulation to be batched at the asphalt plant and tested in the presence of the Engineer.

b. Where previously used or concurrent job mix formulations are to be used, the taking of hot bin samples may be waived by the Engineer.

2. Reclaimed Asphalt Pavement

a. Where reclaimed asphalt pavement material is permitted, it shall have 100 percent passing 1/2 inch sieve and shall be a mixture of only coarse aggregate, fine aggregate, and asphalt cement, free of solvents or other contaminating substances. The fine aggregate contained in the reclaimed asphalt pavement shall have a plasticity index of not greater than 4 when tested in accordance with ASTM D 4318.

Maintain stockpiles of reclaimed asphalt pavement in a manner to prevent contamination with other aggregates and keep covered in order to maintain a low moisture content of the reclaimed asphalt pavement.

b. Unless otherwise shown on the Contract Drawings, a minimum of 10% to a maximum of 25% recycled asphalt pavement will be required in all asphalt mixes, other than the surface course. Asphalt mixes that contain recycled asphalt pavement will have a tolerance range for plant voids of 1.5-5.5%. Fifty percent of the asphalt cement content contained in the recycled asphalt pavement will be deducted from the optimum asphalt content for an asphalt mix design.

c. Contractor's reclaimed asphalt pavement will be considered for use provided that the Engineer is notified of the intended use and that he approves the reclaimed asphalt pavement. Take at least six representative samples, each at least 7 pounds, from each stockpile. Stockpiles shall not exceed 3000 tons. Sample in accordance with ASTM D 75. Sampling will be observed by the Engineer. Take duplicate samples and submit them with mix design for verification. Test samples in accordance with ASTM D 2172 to determine asphalt cement content; test re-covered aggregate in accordance with ASTM C 136 for gradation.

d. Once a reclaimed asphalt pavement stockpile has been approved for use, the stockpile shall be dedicated to the Contract and no reclaimed asphalt pavement may be added to the stockpile. If there is an insufficient amount of reclaimed asphalt pavement in the stockpile to complete the work, a new separate stockpile may be made and shall be tested for acceptance as aforementioned.

3. Locate stockpiles of reclaimed asphalt pavement and of new aggregate so as to prevent intermingling.

4. When more than one asphalt plant is to be used to supply asphalt concrete to the construction site, each asphalt plant shall use a similar job mix formula, as approved by the Engineer.

5. Locations and timing of random sampling shall be determined in accordance with Section 6 of FAA ERLPM.

D. Contractor's Quality Control Tests

1. Perform all quality control tests necessary to control the production and construction processes. The testing program shall include, but not necessarily be limited to, tests for the control of asphalt content, aggregate gradation, Marshall properties and temperatures. Obtain samples at the direction of the Engineer for the purpose of quality control testing. Random sampling procedures specified in Section 6 of FAA ERLPM shall be used for determining the selection of samples as follows:

   a. Take four samples of freshly mixed material per each lot (one sample from each sublot) for top, bottom and base courses. Take samples in accordance with ASTM D 979 from material at the mixing plant.

      A lot will be defined as one day's production for each mix. Production rates for each mix will be obtained by the Engineer from the asphalt plant at the start of each day's production. A sublot will be defined as a quarter of a lot based on the initial production forecast for the mix. Maximum lot size will be 2000 tons. If a day's production is forecast over 2000 tons, the forecast quantity shall be divided into two or more equal lots. Should actual production be greater than the initial forecast of production for a given mix, the additional production will be divided into the same sublot sizes as initially calculated. If one or two additional sublots are produced they will be added to that day's lot with n=5 or 6 for sublots. If three or more additional sublots are produced in a day, an additional lot will be established for that particular day.

      If actual production is less than the initial forecast for a given mix but sufficient material was produced to constitute three sublots, a lot will be formed with three sublots (n=3). Should actual production constitute only one or two sublots, the sublots will be added either to the previous lot or the next production lot, whichever is closer in time. Each sublot shall contain a minimum of 75 tons of material.

      Where more than one plant is simultaneously producing material for the job, the lot sizes shall apply separately for each plant.

   b. Test samples to determine asphalt content in accordance with ASTM D 2172, ASTM D 4125 or ASTM D 6307. Test recovered aggregate to determine gradation in accordance with ASTM D 5444. In addition, when automated recording plants are used, submit printouts of asphalt content to the Engineer.

   c. Prepare three plugs from each sample and test them in accordance with ASTM D 6926 using automatic compaction procedures. Marshall air voids shall be determined in accordance with ASTM D 3203. For each sublot, the maximum theoretical density shall be determined in accordance with ASTM D 2041.

      Voids filled with asphalt, for each plant sample, shall be computed as follows:

      (1) Determine asphalt content in percentage by volume (I) using:

$$I = \frac{P_b \times G_{mb}}{G_b}$$

      Where:

      I = Percentage by volume of asphalt
      P_b = Percentage by weight of asphalt
      G_{mb} = Bulk specific gravity of compacted mixture
      G_b = Specific gravity of asphalt

(2) Determine percent voids filled with asphalt (VF) as follows:

$$VF = \frac{I \times 100}{I + P_a}$$

Where:

VF = Percent voids filled with asphalt
I = Percentage by volume of asphalt
P_a = Percent Marshall air voids

Voids in the Mineral Aggregate (VMA) will be estimated by adding the asphalt content in percentage by volume to the percent of air voids. Bulk spe-cific gravities will be used to calculate VMA.

d. Take hot bin or feeder belt composite samples of top, bottom and base course aggregates for mixes at least twice daily and check gradation in accordance with ASTM C 136, including washing material passing No. 8 sieve in accordance with ASTM C 117.

e. At least six times daily, check and record temperatures at necessary locations to determine the temperatures of:

(1) aggregates and asphalt immediately before introduction to the pugmill or dryer drum;

(2) the mixture immediately after discharge from the pugmill or dryer drum;

(3) the mixture at the spreader on the construction site.

f. Reclaimed Asphalt Pavement

(1) Where reclaimed asphalt pavement is being used as a substitute for some of the virgin aggregate, take a sample of freshly mixed recycled asphalt concrete in accordance with ASTM D 979 and determine the moisture content at least twice daily. Moisture determinations shall be based on the weight loss by heating an approximately 4 pound sample of the freshly mixed materials for one hour in an oven at 280 plus or minus 5 degrees F. The moisture content of the freshly mixed recycled asphalt concrete shall not exceed 0.5 percent.

(2) Take a sample of reclaimed asphalt pavement from the approved stockpile at least once daily and test in accordance with ASTM D 2172 to determine asphalt content and gradation in accordance with ASTM D 5444. The resulting asphalt content and aggregate gradation shall be similar to the average test results of the reclaimed asphalt pavement submitted with Design Job Mix Formula. If there is a variation of plus or minus 1.0 percent in the asphalt content or plus or minus 10 percent in aggregate gradation on any sieve, a second sample shall be taken and tested in the same manner as the first sample. If the results are similar to that of the first sample, appropriate measures shall be taken to adjust the mixture to compensate for the variation in the reclaimed asphalt pavement.

g. Moisture Content of Aggregate

For drum plants the moisture content of aggregate used for production shall be determined a minimum of once per lot in accordance with ASTM C 566.

h. Moisture Content of Mixture

The moisture content of the mixture shall be determined once per lot in accordance with the procedure given in Section 4.02I.1.04.D.1.f. (1). The moisture content in the freshly mixed asphalt concrete shall not exceed 0.5%. If the moisture content is 0.5% or greater, stop production and adjust plant operation.

i. Perform additional testing as required to ensure that mixtures produced meet the requirements of this Section.

2. Control Charts

Maintain linear control charts both for individual measurements and range (i.e., difference between highest and lowest measurements) for aggregate gradation and asphalt content. When test results exceed certain limiting values, take action to bring the asphalt concrete production process under tighter control. The Action Limit is the limiting value at which corrective actions shall be made while production may continue. The Suspension Limit is the limiting value at which production must be suspended while corrections are made. Production shall not resume until Contractor's corrections are approved by the Engineer.

Post control charts in a location satisfactory to the Engineer and keep charts current. As a minimum, the control charts shall identify the project number, the contract item number, the test number, each test parameter, the Action and Suspension Limits applicable to each test parameter and the Contractor's test results. Use the control charts as part of a process control system for identifying potential problems and assignable causes before they occur. If in the Engineer's opinion the Contractor's projected data during production indicates a problem and the Contractor is not taking satisfactory corrective action, the Engineer may suspend production or acceptance of the material.

a. Individual Measurements

Establish control charts for individual measurements to maintain process control within tolerance for aggregate gradation and asphalt content. The control charts shall use the job mix formula target values as indicators of central tendency for the following test parameters with associated Action and Suspension Limits:

CONTROL CHART LIMITS FOR INDIVIDUAL MEASUREMENTS		
Sieve	Action Limit	Suspension Limit
1"	±6%	±9%
3/4"	±6%	±9%
1/2"	±6%	±9%
3/8"	±6%	±9%
No. 4	±6%	±9%
No. 8	±5%	±7.5%
No. 16	±5%	±7.5%
No. 30	±3%	±4.5%
No. 50	±3%	±4.5%
No. 100	±2%	±3%
No. 200	±2%	±3%
Asphalt content	0.45%	±0.7%

b. Range.

Establish control charts for range to control process variability for the test parameters and Suspension Limits listed below. Compute the range for each lot as the difference between the two test results for each control parameter. The Suspension Limits specified below are based on a sample size of n = 2. Should the Contractor elect to perform more than two tests per lot, the Suspension Limits shall be adjusted by multiplying the Suspension Limit by 1.18 for n = 3 and by 1.27 for n = 4.

CONTROL CHART LIMITS BASED ON RANGE	
(Based on n = 2)	
Sieve	Suspension Limit
1"	11%
3/4"	11%
1/2"	11%
3/8"	11%
No. 4	11%
No. 8	9%
No. 16	9%
No. 30	6%
No. 50	6%
No. 100	3.5%
No. 200	3.5%
Asphalt Content	0.8%

c. Corrective Action.

The Quality Control Plan shall provide for appropriate action to be taken when the asphalt concrete production process is out of control. The Plan shall contain sets of rules to gauge when a process is out of control and shall describe Contractor's actions to bring the process into control. A process shall be deemed out of control and production stopped and corrective action taken, if:

(1) One point falls outside the Suspension Limit line for individual measurements or range; or,

(2) Two consecutive points fall outside the Action Limit line for individual measurements.

3. Document quality control efforts using copies of the sample forms contained in the FAA ERLPM, Appendix C, in its entirety, or other forms obtained from the Engineer. Make test results available to the Engineer daily.

4. If a storage silo is used (except where excluded in 4.02I.3.02.A.8):

   a. Check the silo to see that it can properly store the asphalt concrete for the time involved.

   b. Take samples of asphalt concrete as it is unloaded from the silo and check them for conformance to this Section. If the asphalt concrete appears segregated, stop using the storage silo until it is demonstrated to the Engineer that the condition has been corrected.

   c. Silo storage time shall be governed by previous State DOT approval, not to exceed 24 hours.

5. Unless otherwise noted on the Contract Drawings, and subject to the approval of the Engineer, select an area to be called a Control Strip from the first day's production of each mix. Each Control Strip shall be a minimum of 100 feet long and two spreader widths wide and shall be constructed to meet the requirements of this Section and in the same manner as the remainder of the course it represents. Take three random samples at the plant and test them for stability, flow and air voids in accordance with ASTM D 6927 and 4.02I.1.04.D.1.c. Take three randomly selected cores from the pavement mat and three along the longitudinal pavement joint and test them to determine density in accordance with 4.02I.1.04.E.5 and E.6. Use the same means and methods which will be used to construct longitudinal and transverse joints as referred to in 4.02I.1.04.B.6.h and 4.02I.3.02.F.1 and 2.

   The purpose of the Control Strip is to demonstrate that the completed pavement may be constructed using the proposed equipment and methods of operation and to obtain all quality requirements prior to the start of full production. Construct a new Control Strip whenever a change is made in equipment, methods of operation or type or source of material or whenever there is a change in the job mix formula. The Control Strip may become part of the completed pavement if it meets the requirements of this Section.

6. Include, as part of the quality control plan, the use of a nuclear density device to aid in meeting the specified target densities. Calibrate the nuclear density device with the control strip cores. If other than a nuclear density device is used it shall be calibrated with an additional set of pavement cores.

7. Surface Smoothness

   Each lot shall be evaluated with a 16-foot straightedge provided by the Contractor and subject to approval by the Engineer. The lot size shall be 2,000 square yards. Measurements will be made perpendicular and parallel to the centerline of the paving strips at distances not to exceed 25 feet. When more than 15 percent of all measurements within a lot exceed the specified tolerance in 4.02I.1.03.D.1.b, the Contractor shall correct the deficiency in accordance with 4.02I.3.03.A. Written measurement results shall be submitted to the Engineer prior to payment. The Engineer shall perform the survey jointly with the Contractor.

8. Final Surface Grade.

   The finished grade of each lot will be determined by running levels at intervals of 50 feet or less longitudinally and 25 feet or less transversely to determine the elevation of the completed pavement. The lot size shall be 2,000 square yards. When more than 15 percent of all the measurements within a lot are outside the specified tolerance, the Contractor shall correct the deficiency in accordance with 4.02I.3.03.A. Survey results shall be submitted to the Engineer prior to payment. The Engineer shall perform the survey jointly with the Contractor.

E. Engineer's Sampling and Testing

1. Produce asphalt concrete in approved automated plants equipped with interlocks and printouts meeting the requirements of ASTM D 995 and subject to the following:

   a. Plant interlocks and printouts shall be in operation during production and two (2) copies of all printouts shall be furnished to the Engineer daily.

b. Scales shall be certified by an approved agency at least every 180 calendar days and copies of certifications shall be submitted to the Engineer upon request.

2. Provide labor and equipment to take samples, except cores, to check thickness and density.

3. The Engineer will perform acceptance testing for Marshall air voids, stability and flow. Samples will be taken from trucks at the plant, in accordance with FAA ERLPM, Section 6. These samples will be from the sublots that were sampled in 4.02I.1.04.D.1.a. The Engineer will prepare three plugs from each sample and test them in accordance with ASTM D 6926 and ASTM D 6927 using automatic compaction procedures. The specimen compaction temperatures will be within the following range as measured within 1/2 inch from the outside edge:

Performance Grade	Temperature Degrees F°
PG 64-22, PG 70-22	275 – 295
PG 76-22	300 – 320
PG 82-22	305 - 325

Air voids, voids in mineral aggregate and voids filled with asphalt will be determined in accordance with ASTM D 3203 and 4.02I.1.04.D.1.c. The average test values obtained from each lot of top and bottom courses must conform to the parameters specified in 4.02I.1.03.C.

In lieu of sampling and testing in the field, the Engineer may sample and perform acceptance testing at the plant. The Contractor will be advised at the start of Work where the Engineer will sample and test.

4. For thickness determination, exclusive of overlay pavement, the Engineer will divide each course into area lots consisting of the area covered by the lot sampled as specified in 4.02I.1.04.D.1.a and he will further subdivide each lot into four equal sublots. The Engineer will take one 4-inch diameter core randomly in each sublot to check thickness of the top and bottom courses. One fourth of all such cores will continue through the plant mix macadam base course. Thickness will be determined in accordance with ASTM D 3549.

5. Mat Density

a. The Engineer will determine the in-place density of the control strip and subsequently placed pavements by taking cores at random locations as specified below.

b. Cores taken from the top and bottom course in place and any other specimens taken at the jobsite, sampled in accordance with the random sampling procedures as specified in 4.02I.1.04.D.l, will be tested by the Engineer for bulk specific gravity in accordance with ASTM D 2726. Cores shall not be taken closer than one foot from a transverse or longitudinal joint for pavement mat density determination. The in-place density of the pavement course will be the ratio of the in-place specific gravity to the laboratory Marshall bulk specific gravity expressed as a percentage.

c. Cores taken from courses containing more than 10 percent air voids will be tested by the Engineer for density (Bulk Specific Gravity) according to the following equation:

$$S.G. = \frac{W}{12.87\ d^2 h}$$

Where:

W = Weight, Dry Specimen (grams)
d = Measured Diameter[5] (inches)
h = Measured Height[5] (inches)

Laboratory bulk specific gravity and computation of in-place density will be as specified in 4.02I.1.04.E.5.b above.

d. The average in-place density determination, taken from the area covered by the lot sampled as specified in 4.02I.1.04.D.l.a, will be determined by the Engineer by summing up the sublot in-place density readings obtained from a lot and dividing the total by the number of sublots. The in-place density from each sublot will be obtained using a core reading taken from each sublot on a random basis and dividing by the Marshall bulk density (ASTM D 6926 and ASTM D 2726) taken for that sublot. Any core with a thickness less than twice the largest sieve size to retain more than 5 percent of any aggregate will be discarded and additional random cores will be taken as required to ensure representative readings.

e. The Engineer will repeat the procedure specified in a. through d. above whenever a change is made in the type or source of material or whenever a new job mix formula is approved for material from the same source.

6. Joint Density

The Engineer will take one core from each sublot of all surface courses or from the underlying lifts as defined in 4.02I.1.04.D.l.a and will test it in accordance with 4.02I.1.04.E.5. For joint cores the lowest Marshall bulk density for sublots forming the joint will be used to compute the in-place density. The Engineer will take cores from directly over the longitudinal joint in line with the location of the random cores taken under 4.02I.1.04.E.5.b. When a paving lane has two longitudinal joints, both joints will be cored. The in-place joint density will be determined separately for each joint, and the joint producing the lowest in-place density will be used to determine payment. Based on site and placement conditions the Engineer may elect to core only one joint.

7. In-place Air Voids

The Engineer will calculate the in-place mat air voids for each sublot in accordance with ASTM D3203, by comparing the bulk specific gravity (ASTM D 2726) of the cores taken as specified in 4.02I.1.04.E.5.b to the maximum laboratory specific gravity (ASTM D 2041).

8. The Contractor shall patch all areas where samples are taken with an approved asphalt concrete or Portland cement concrete properly tamped to fill all voids and struck off flush with the surface within 24 hours after sampling.

9. The Engineer may at any time, notwithstanding previous plant approval, reject and require the Contractor to dispose of any batch of asphalt concrete mixture which is rendered unfit for use due to contamination, segregation or incomplete coating of aggregate. Such rejection may be based on only visual inspection. In the event of such rejection, the Contractor may take a representative sample of the rejected material in the presence of the Engineer and, if the Contractor can demonstrate in the laboratory, in the presence of and to the satisfaction of the Engineer, that such material was erroneously rejected, the Contractor will be compensated for the material.

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[5] *Average of 5 equally spaced measurements around the core.*

10. Surface Smoothness

    a. A lot is defined as 2,000 SY of final paved surface. Where paving areas are not equally divisible into 2,000 square yard lots, odd sized lots between 1,000 and 3,000 square yards will be used. The odd sized lots will be used for the area remaining after the paved area is divided into 2,000 square yard lots.

    b. Each lot will be evaluated by the Engineer with a 16-foot rolling straightedge provide by the Contractor and subject to approval by the Engineer. Measurements will be made perpendicular to the centerline of the paving lanes at distances not to exceed 25 feet; longitudinal measurements will be made along the centerline of the paving lane. Designed breaks in grade shown on the Contract Drawings will not be included in the measurements. When more that 15 percent of all measurements within a lot exceed the tolerance specified in 4.02I.1.03.D.1.b, the Contractor shall correct the deficiency in accordance with 4.02I.3.03.A.

11. Final Surface Grade

    The grades of the final surface of each lot will be measured at the finished grade locations shown on the Contract Drawings. Where paving lanes are 20 feet or greater in width, an additional line of grades, located at the center of the paving lane and spaced at 25 feet longitudinally, will be measured. A lot is defined as 2,000 square yards of final pavement surface. The transverse limit of the lot will be the transverse limit of paving. Where paving areas are not equally divisible into 2,000 square yard lots, odd sized lots between 1,000 and 3,000 square yards will be used. The odd sized lots will be used for the area remaining after the paved area is divided into 2,000 square yard lots. The Contractor shall perform the survey jointly with the Engineer.

12. The Engineer will perform acceptance testing of modified asphalt to determine if it meets the performance grade requirements set forth in 4.02I.2.02.B. Samples will be collected at the asphalt plant for each lot of asphalt concrete produced, as specified in 4.02I.1.04.D1.a. The Engineer will sample the liquid asphalt from the plant storage tanks which must be equipped with a sample valve.

13. The Engineer will measure the temperature of each load of asphalt concrete. Any load of asphalt concrete with temperature exceeding 350°F will be rejected.

14. Where there is a discrepancy between the Contractor's test results and the Engineer's, the Engineer's results shall govern.

4.02I.1.05. SUBMITTALS

A. Submit to the Engineer, for approval, all Job Mix Formulae with Checklist (specified in 4.02I.2.03.B) for each type of asphalt concrete mix, from each plant and each type of asphalt concrete mix, from each plant and each new source of material at least 10 days prior to the start of production.

B. Submit certified test data, location of each type aggregate to be used and quantities to be obtained from each location and make arrangements for the Director of NYCDDC's Quality Assurance Unit to obtain samples from each such location for checking against the samples submitted. Take all samples in accordance with requirements of ASTM D 75 and ASTM D 242.

C. If requested, submit to the Director of NYCDDC's Quality Assurance Unit samples of each type aggregate to be used and from each source with proper identification as to source, type of aggregate and Contract number. Submit in clean, sturdy bags and in the following amounts for each sample when requested:

Reclaimed Asphalt Pavement (when used)	50 lbs.
Coarse Aggregate	25 lbs.
Fine Aggregate	25 lbs.
Mineral Filler	5 lbs.

D. Submit to the Director of NYCDDC's Quality Assurance Unit, for approval, four one-quart samples of the asphalt cement and two one-quart samples of the liquid latex (if applicable) proposed for use together with the following data:

1. The name of the supplier(s).

2. An analysis of such asphalts by the supplier, certifying that the results of tests comply with the requirements of AASHTO M320 and this Section.

   A certificate, from the liquid latex supplier, identifying and stating the physical properties of the latex components. Percentages of solids and water shall be included.

   Resubmit the above data each time an asphalt or liquid latex from a different source is proposed.

E. Where asphalt cement is to be combined at the plant with an asphalt modifier, submit the asphalt cement in accordance with 4.02I.1.05.D above and submit a 10-pound sample of the asphalt modifier together with a certificate from the modifier supplier identifying and stating the physical properties of the modifier.

F. Submit quality control plan and control charts to the Director of NYCDDC's Quality Assurance Unit, for approval, at least 5 days prior to the start of production.

G. Submit to Director of NYCDDC's Quality Assurance Unit, the name of the supplier and an analysis of the asphalt tack coat to be used on the project.

H. Submit smoothness measurements and surface grade survey results to the Engineer prior to application for payment.

PART 2. PRODUCTS

4.02I.2.01. MANUFACTURERS

A. Manufacturer of asphalt cement shall be approved by the New York State Department (NYSDOT) of Transportation.

B. Modified Asphalt shall be one of the following. No Substitution is permitted.

1. Stylink - Koch Materials; Gloucester, NJ

2. Vestoplast "S" Modifier - Creanova, Inc.; Sommerset, NJ

3. Kraton - Shell Chemical Co.; Houston, TX

4. Citgoflex SP - Citgo Asphalt Refining Co.; Paulsboro, NJ

5. Polykote – Suite – Kote Corp.; Cortland, NY

6. Elvaloy RET – E.I. DuPont Co.; Wilmington, DE

4.02I.2.02. MATERIALS

A. Aggregates

1. If the tensile strength ratio of the specimens of composite mixture is less than 80 percent, as specified in 4.02I.1.03.B.6, the aggregates will be rejected unless the Contractor treats the asphalt with an approved anti-stripping agent. The amount of anti-stripping agent added to the asphalt shall be sufficient to produce a tensile strength ratio of not less than 80 percent.

2. Coarse Aggregate - Material retained on the No. 8 sieve.

   a. Except for use in the top lift of the top course within the roadway pavement edge markings as shown on the Contract Drawings, coarse aggregate shall conform to ASTM D 692, except as follows: use broken stone or crushed gravel having not less than 75 percent by weight of pieces with two or more fractured faces and 85 percent by weight having at least one fractured face (ASTM D 5821), with a maximum of 8 percent of flat or elongated pieces (ASTM D 4791), with a maximum percentage of wear (ASTM C 131) of 40 percent and with a magnesium sulfate loss (ASTM C 88) of not more than 12 percent for a five-cycle test period.

   b. For the top lift of the top course within the roadway pavement edge markings as shown on the Contract Drawings, coarse aggregate shall conform to ASTM D 692 except as follows: use broken stone which shall be trap rock or gneiss of uniform quality obtained from a source approved by the New York State Department of Transportation (NYSDOT) for use in asphalt concrete. The aggregate shall have not less than 75 percent by weight of pieces with two or more fractured faces, with a maximum of 8 percent of flat or elongated pieces (ASTM D 4791), with a maximum percentage of wear (ASTM C 131) of 30 percent and with a magnesium sulfate loss (ASTM C 88) of not more than 12 percent for a five-cycle test period.

   c. A flat particle is one having a ratio of width to thickness greater than five; an elongated particle is one having a ratio of length to width greater than five.

3. Fine Aggregate - Material passing the No. 8 sieve and retained on the No. 200 sieve.

   Fine aggregate shall be a blend of washed, textured sand and stone screenings conforming to ASTM D 1073, with a maximum percentage of wear (ASTM C 131) of 30 percent and with a magnesium sulfate loss (ASTM C 88) of not more than 18 percent for a five-cycle test period, a plasticity index of not more than 6 and a liquid limit of not more than 25 when tested in accordance with ASTM D 4318. When tested in accordance with ASTM D 2419, the sand equivalent value shall be 35 or greater.

   Textured sand shall be defined as a sand which when tested in accordance with ASTM C1252, Method A, results in uncompacted voids greater than 45.0 percent. Sand that has a low texture value and slag shall not be used.

4. Mineral filler shall conform to ASTM D 242 and have a ratio to asphalt by weight not exceeding 1.2.

B. Asphalt

Asphalt shall be one of the following conforming to the requirements of AASHTO M320 and as specified within table entitled "Requirements for Performance Graded Asphalts" for the Performance Grade (PG) as shown on the Contract Drawings:

1. Asphalt Cement

   Asphalt cement shall meet the requirements for PG 64-22, unless otherwise shown on Contract Drawings.

2. Modified Asphalt

Modified Asphalt shall be one of the following. No Substitution is permitted.

a. "Stylink", "Kraton (SEBS)", "Polykoto", "Elvaloy RET", or "Citgoflex SP" meeting the requirements for PG 76-22 as shown on the Contract Drawings.

b. Asphalt cement modified with "Vestoplast 'S'", may be used where PG 76-22 is specified and subject to the following:

(1) Add Vestoplast "S" to the asphalt concrete mixture at a rate of 7 percent by weight of asphalt cement, by substitution.

(2) Arrange for the manufacturer to provide a representative at the plant at all times during production to verify that the proper quantity of Vestoplast "S" was added to the asphalt concrete.

C. Tack Coat

Unless otherwise shown on Contract Drawings, asphalt cement shall be as specified in 4.02I.2.02.B.1 above.

D. Resultant Asphalt Cement

Resultant asphalt cement shall be a mixture of new asphalt cement as specified in 4.02I.2.02.B.1 above, asphalt cement extracted from the reclaimed asphalt pavement and recycling agents if required.

REQUIREMENTS FOR PERFORMANCE GRADED ASPHALTS

PERFORMANCE GRADE (PG)	64-22	70-22	76-22	82-22
These Tests Performed on Original Binder:				
Flash Point Temperature (AASHTO T48): Minimum, Degrees Celsius.	230	230	230	230
Dynamic Shear (AASHTO T315): G*/SIN DELTA, Minimum, 1.00 kPa, Test Temperature At 10 Rad/s, Degrees Celsius.	64	70	76	82
Rotational Viscosity (ASTM D 4402): Maximum, 3 Pa-s, Test Temperature, Degrees Celsius.	135	135	135	135
Separation Test – R&B (ASTM D 5976): Percent Difference Maximum Degree Celsius.	--	--	4.5	4.5
These Tests Performed on Rolling Thin Film Oven Test (RTFOT) Residue:				
Mass Loss (AASHTO T240): Maximum Percent.	1.00	1.00	1.00	1.00
Dynamic Shear (AASHTO T315): G*/SIN DELTA, Minimum, 2.20 kPA, Test Temperature at 10 Rad/s, Degrees Celsius.	64	70	76	82
Elastic Recovery (ASTM D 6084) 25 Degrees Celsius, 5 cm/minute Elongation, 60 Minutes, Minimum Percent.	--	--	50	75
These Tests Performed on Pressure Aging Vessel (PAV) Residue:				
PAV Aging Temperature (AASHTO R28): Degrees Celsius.	100	100	100	100
Dynamic Shear (AASHTO T315): G*/SIN DELTA, Maximum, 5000 kPa, Test Temperature at 10 Rad/s, Degrees Celsius.	25	28	31	34
Creep Stiffness (AASHTO T313): S, Maximum, 300 MPa m-Value, Minimum 0.300, Test Temperature at 60 Seconds, Degrees Celsius	-12	-12	-12	-12

4.02I.2.03 MIXES.

A. Mix Design Table

Mix Designation and Percentage by Weight Passing Sieves				
Sieve Size	Plant Mix Macadam Base Course	Bottom Course Mix 1	Top Course Mix 2	Top Course Mix 3
1-1/4"	100	100	---	---
1"	90 - 100	90 - 100	---	---
3/4"	60 - 80	70 - 84	78 – 98	100
1/2"	---	54 - 68	64 – 77	72 - 98
3/8"	15 - 40	44 - 54	52 – 67	60 - 82
No. 4	0 - 10	28 - 36	33 – 46	40 - 56
No. 8	---	17 - 25	23 – 32	28 - 39
No. 16	---	12 - 20	16 – 20	19 - 24
No. 30	---	7 - 15	12 – 16	13 - 19
No. 50	---	5 - 11	8 – 12	8 - 16
No. 100	---	3 – 9	6 - 10	5 - 10
No. 200	---	1 – 5	3 - 6	3 - 6
Asphalt, Weight by Percent of Total Mixture				
	2.5 - 3.1	3.5 - 4.5	4.4 – 5.2	5.2 – 6.2

Note No. 1 - Material passing the No. 200 sieve may consist of fine particles of the aggregate, mineral filler or both. Material passing the No. 30 sieve shall be non-plastic when tested in accordance with the requirements of ASTM D 4318.

Note No. 2 - Lift Thickness shall be no less than two times the nominal maximum size of the aggregate (See Note No. 6).

Note No. 3 - If the aggregate does not satisfy tensile strength ratio requirements, add an approved antistripping agent (See 4.02I.2.02.A.1)

Note No. 4 - Job Mix Formula shall follow a smooth curve within the specified limits for all sieve sizes of the Mix Design Table, but should not fall on the maximum density line and should not cross the maximum density line below the No. 4 sieve. The maximum density line will be determined by plotting the gradations on a 0.45 power graph paper, and drawing a straight line between the amount passing the No. 200 sieve and the amount which is retained on the largest sieve.

Note No. 5 - Notify the Engineer if a satisfactory Job Mix formula using the Mix Design Table cannot be obtained.

Note No. 6 - Nominal maximum size is one sieve size larger than the first sieve to retain more than 10 percent of the aggregate, based on the Contractor's job mix formula.

B. Job Mix Formula and Checklist

1. The laboratory used to develop the job mix formula shall meet the requirements of ASTM D 3666. Before construction starts, submit to the Engineer a certification signed by the manager of the laboratory stating that it meets these requirements. The certification shall contain as a minimum:

   a. Qualifications of personnel: laboratory manager, supervising technician and testing technicians.

   b. A listing of equipment to be used in developing the job mix.

   c. A copy of the laboratory's quality control system.

2. Develop Job Mix Formula using procedures contained in Chapter V, "Marshall Method of Mix Design" of the Asphalt Institute's Manual Series No. 2 (MS-2) and where applicable, "Asphalt Hot-Mix Recycling", Manual Series No. 20 (MS-20) and provide information for the following checklist:

   a. General

      (1) Contractor and Contract number

      (2) Type of bituminous mixture

      (3) Type and source of aggregates

      (4) Type and source of asphalt

   b. Aggregates

      (1) Sieve analysis of each aggregate to be used in mixture in accordance with ASTM C 136. The minus 200 fraction shall be tested in accordance with ASTM C 117.

      (2) Physical test of aggregates - soundness, wear, percent fractured faces and percent flat or elongated particles.

      (3) Bulk specific gravity and absorption in accordance with ASTM C 127 for coarse aggregate and ASTM C 128 for fine aggregate. The aggregate shall be sampled from the plant hot bins or feeder belt.

      (4) Proportion used of each type aggregate.

      (5) Theoretical gradation of combined proportions of aggregates.

   c. Asphalt

      (1) Type and grade

      (2) Specific gravity

      (3) Type of antistripping agent (if required)

   d. Optimum Asphalt Content Determination in accordance with ASTM D 6926 and ASTM D 6927

      (1) Compactive effort (75 or 113 blows applied to specimen, each face, as appropriate)

      (2) Actual specific gravity and unit weight of each specimen

      (3) Percentage of asphalt in each specimen

(4) Theoretical specific gravity of each specimen calculated

(5) Graph of stabilities vs. asphalt content

(6) Graph of flow values vs. asphalt content

(7) Graph of voids filled with asphalt vs. asphalt content

(8) Graph of Marshall air voids vs. asphalt content

(9) Graph of voids in the mineral aggregate vs. asphalt content.

(10) Graph of unit weight vs. asphalt content

(11) Visual description of specimens at optimum asphalt content (i.e., dry, flushing, etc.)

(12) Graph of Temperature vs. Viscosity of Asphalt

e. Summation of Established Job Mix Formula

(1) Combined gradation of aggregates

(2) Optimum asphalt content from above graphs

(3) Specified job mix tolerance range

(4) Mixing Temperature

(5) Temperature of mix at point of discharge into haul units

(6) Compaction Temperature

f. Summation of the Characteristics of the Mixture at Optimum Asphalt Content

(1) Stability, pounds

(2) Flow value, hundredths of an inch

(3) Actual specific gravity of laboratory compacted mixture

(4) Maximum specific gravity of paving mix at optimum asphalt content in accordance with ASTM D 2041

(5) Total voids (air), percent, in laboratory compacted mixture

(6) Voids filled with asphalt, percent, in laboratory compacted mixture

(7) Voids in the mineral aggregate, percent, in laboratory compacted mixture.

(8) Actual unit weight, lbs./cu. ft. of laboratory compacted mixture

(9) Tensile Strength Ratio - ASTM D 4867

g. Verification of Job Mix Formula Characteristics

Where the asphalt content for the proposed Job Mix Formula does not coincide with the asphalt content used in the trial specimens, prepare an additional set of specimens for the proposed Job Mix Formula asphalt content to verify that actual Marshall results duplicate those anticipated from the curves.

PART 3. EXECUTION

4.02I.3.01 PREPARATION.

A. Clean all underlying pavement surfaces and previous courses of all loose and foreign material by sweeping with hand brooms, power sweepers or blowers as directed by the Engineer.

B. Verify that required grade and density tolerances of previous courses have been obtained before placing asphalt concrete.

C. Construct keyways for overlay pavements as shown on the Contract Drawings by using longitudinal or transverse cuts into the existing pavement, and removing the necessary amount of pavement to provide a smooth transition from the new to existing asphalt concrete surfaces.

D. Verify in-pavement castings are set to finished grade.

E. Remove pavement markings.

F. Tack Coat

1. Apply tack coat by brush on edges of all previously placed or existing pavement and surfaces of manholes and other structures that will be in contact with pavement course to be placed.

2. Apply tack coat by pressure distributor to existing pavement surface to receive new pavement course or where a course is not placed within 24 hours for roadway areas after placement of the underlying course, except as specified in 4.02I.3.02.E.7 and F.2. However, if the underlying pavement course has not been exposed to traffic and, in the opinion of the Engineer, is kept clean, tack coat shall not be required when a course is placed beyond the time frame mentioned above.

3. Unless otherwise shown on the Contract Drawings, apply tack coat at a rate of 0.05 to 0.10 gallons per square yard on asphalt concrete pavement surfaces and 0.10 to 0.15 gallons per square yard on Portland Cement Concrete pavement surfaces. Apply tack coat at a temperature between 275 to 350 degrees F.

4. Protect structures such as manhole frames and covers, joints and steel faced curbs within areas to be tack coated, prior to tack coating, by masking them with tar paper, polyethylene film or other approved materials.

5. After the application of tack coat, follow immediately with placement of asphalt concrete pavement course. Take precautions necessary to maintain and protect the tack coated surface from damage until the next course is placed, including placement and removal of sand as necessary to blot up excess material.

6. Pave and protect all tack coated surfaces prior to opening the area to traffic.

G. Mixing Plant Requirements for Recycled Asphalt Concrete

1. Batch Plants shall have an appropriately located metering device for adding the reclaimed asphalt pavement to the heated new aggregate and shall provide an accurate method for proportioning the reclaimed asphalt pavement into the mixture.

2. The batch plant's dryer may have to be operated at temperatures higher than with all new materials. If necessary, modify the dryer and the dust collection system to prevent damage.

3. Drum-mix plants shall have an appropriately located metering device for adding the reclaimed asphalt concrete to the dryer-mixer in a manner that does not damage the asphalt in the reclaimed material. Ensure that an accurate method for proportioning the reclaimed asphalt concrete into the mixture is provided. Make provisions for compensating for moisture in reclaimed asphalt concrete.

4. The mixing for a drum-mix plant shall be such as to achieve an intimate blending of new and reclaimed materials and a complete coating of all aggregate particles.

5. The batch or drum-mix plant may be equipped with a surge-storage bin at the mixture discharge point.

4.02I.3.02. APPLICATION.

A. Mixing in Plant

1. Place aggregate through a dryer and heat to temperature not exceeding 350 degrees F.

2. Screen aggregate to appropriate fractions and place each fraction in a storage bin over mixer unit.

3. Use equipment conforming to ASTM D 995 for preparation of paving mixtures, except provide one bin for fine aggregate, three for coarse aggregate and one for reclaimed asphalt pavement (if applicable).

4. Introduce aggregate into mixer at between 250 and 350 degrees F and dry mix for minimum of 5 seconds (7 seconds for mixtures containing Vestoplast "S") before adding asphalt. Where reclaimed asphalt pavement or Vestoplast "S" is used, add to mixer after dry mixing and before asphalt cement.

5. Heat asphalt to a temperature not exceeding 325 degrees F (350 degrees F for modified asphalt) and introduce it into mixer at a temperature of not less than 275 degrees F (300 degrees F for modified asphalt).

6. Mix as long as necessary, but not less than 30 seconds after introduction of asphalt cement, to completely and uniformly coat aggregate particles.

7. Regulate temperature of mixture according to outdoor temperature and as necessary to meet minimum laydown temperatures specified in 4.02I.1.03.A.3. However, asphalt concrete mix production temperatures leaving the plant shall be as follows:

Type of Asphalt	Temperature Degrees F
Asphalt Cement	275 - 325
Modified Asphalt- PG 76-22	305 - 335
Modified Asphalt – PG 82-22	310 – 340

Any deviation from these temperatures must be as approved by the Engineer.

8. Use of storage silos will be permitted provided such silos are approved as specified in 4.02I.1.04.D.4.

B. Delivery, Placing and Spreading

1. Trucks used for hauling asphalt concrete mixtures shall have tight, clean, and smooth metal beds free from kerosene and other solvents. To prevent the mixture from adhering to them, the truck beds shall be lightly coated with a minimum amount of paraffin oil, lime solution, or other approved material. Each truck shall have a suitable cover to protect the mixture from adverse weather. When necessary, to ensure that the mixture will be delivered to the site at the specified temperature, truck beds shall be insulated or heated and covers shall be securely fastened.

2. Load trucks using a minimum of three drops. About 40 percent of the total weight of the mix to be hauled shall be loaded into the center of the front half of the truck. The truck shall then be pulled forward so that the next 40 percent or so of the total load can be deposited into the center of the back half of the bed, near the tailgate. The vehicle shall then be moved backward so that the remaining 20 percent of the mix can be dropped into the center of the bed, between the first two piles.

3. Deliveries shall be scheduled so that placing and compacting of mixture is uniform without stopping and starting of the paver. Hauling over freshly placed material shall not be permitted until the material has been compacted, as specified herein, and allowed to cool to ambient temperature.

4. Spread evenly, screed and finish each course to tolerances and requirements specified in this Section.

5. Asphalt concrete pavers shall be self-propelled, with an activated screed, heated as necessary, and shall be capable of spreading and finishing courses of asphalt concrete which will meet the specified thickness, smoothness, and grade. The paver shall have sufficient power to propel itself and the hauling equipment without adversely affecting the finished surface.

   The paver shall have a receiving hopper of sufficient capacity to permit a uniform spreading operation. The hopper shall be equipped with a distribution system to place the mixture uniformly in front of the screed without segregation. The screed shall effectively produce a finished surface of the required smoothness and texture without tearing, shoving, or gouging the mixture.

6. An automatic screed control system shall be used which is capable of automatically maintaining the specified screed elevation and transverse slope. The control system shall be automatically actuated from a reference system by a sensors.

   The control system shall be capable of working in conjunction with any of the following reference systems:

   a. Ski-type device 40 to 60 feet in length.

   b. Taut stringline (wire) set to grade.

   c. Laser beam set to grade.

   Automatic controls will not be required where the Contractor can demonstrate to the satisfaction of the Engineer that it can not be used effectively.

7. Before commencing each day's paving, clean the paver of any material left from previous paving operations.

8. Place in minimum of 10-foot wide strips, except that the last strip may be a lesser width if necessary. The length of paving strip shall be estimated by the following guide: 10 times the ambient temperature (degrees F) plus 100 feet. The Engineer will determine the final length.

9. Begin along high sides of areas and proceed towards low side of areas with a one directional slope. Start on centerline and work both ways for crowned pavements.

10. The longituinal joint in one lift shall offset the longituinal joint in the lift immediately below by at least 1 foot; however, the longitudinal joint in the surface lift shall be at the centerline of the pavement. Transverse joints in one lift shall be offset by at least 10 feet from transverse joints in the previous lift. Within the same lift, transverse joints in adjacent lanes shall be offset a minimum of 10 feet.

11. When starting paving operations at transverse joints, provide four starting block strips under full length of paver screed. Blocks should be of a thickness appropriate for the lift being placed.

12. The paver's hopper shall be kept half full throughout the paving day. The wings shall not be emptied until the end of the paving day. Residual material shall be disposed of off the site.

13. No raked asphalt concrete material shall be broadcast back onto the pavement mat. Raked material shall be placed back in the paver hopper or disposed of.

14. Use hand placing and finishing methods, as approved by the Engineer, in small areas where use of power equipment is impractical. Lutes shall be used for had spreading.

15. Provide paving irons and heating equipment for use during paving operations and where necessary to improve the surface conditions, as approved by the Engineer.

C. Grade Control

1. Remove grade stakes just prior to rolling of the plant mix macadam base course.

2. The Engineer will provide bench marks and alignment controls adjacent to each area of construction, which shall be checked and maintained by the Contractor.

3. When placing overlays where automatic grade controls are not required, the thickness of each lift to be placed shall be marked on the pavement adjacent to each side of the paving machine at each location where final pavement grades are shown on the Contract Drawings.

4. Perform Contractor's quality control surveys immediately after top course has been rolled to check final surface grades, in accordance with 4.02I.1.04.D.8.

5. Establish and maintain required lines and grades, including crown and cross slope, for each course during paving operations.

6. Use only qualified surveyors licensed in the State in which Work is being performed.

D. Compaction Equipment

1. Use power rollers weighing not less than 10 tons, having wheel loads of at least 250 lbs./linear inch of combined static and dynamic force and equipped with adjustable scrapers to keep wheel surfaces clean and with efficient means of keeping them wet to prevent the mixture from sticking to the roller.

2. Use types and quantities of equipment as necessary to meet all quality and production requirements of this Section.

3. Do not use steel rollers with pits, flat spots or grooves worn into rolling surface. Roller shall be capable of reversing without backlash.

4. Keep roller on asphalt concrete to avoid contamination of pavement with foreign material.

E. Rolling

1. Commence as soon as material will sustain roller without undue displacement, cracking or shoving.

2. The speed of the roller shall at all times be sufficiently slow to avoid displacement of the hot mixture and be effective in compaction. Any displacement occurring as a result of reversing the direction of the roller, or from any other cause, shall be immediately corrected by the Contractor.

3. The sequence of rolling operations shall be at the discretion of the Contractor.

4. Perform rolling with types and quantity of rollers as may be necessary to satisfy all of the pavement quality requirements specified herein.

5. Do not re-roll cold in-place asphalt concrete with a steel wheel or vibratory roller to attempt to increase density. A pneumatic tire roller may be used, subject to approval by the Engineer.

6. At end of each day's operations or when paving is interrupted sufficiently to allow mixture to cool, make a stop by means of tapering the course and form a transverse joint.

7. When resuming operations, cut back joint to expose a granular surface for full depth of the course, paint exposed edge with tack coat, place fresh mixture against joint, tamp and roll.

8. Any mixture that becomes loose and broken or mixed with dirt, develops check-cracking, or is in any way defective shall be removed and replaced with fresh hot mixture and immediately compacted to conform to the surrounding area. This work shall be done at no cost to the City. Skin patching shall not be allowed.

F. Joints

1. Form all joints in such a manner as to ensure a continuous bond between the courses and to obtain the required density, as demonstrate, tested and approved in the control strip. All joints shall have the same texture as other sections of the course and shall meet the requirements for density, smoothness and grade. Minimize raking of joints. Any mix raked from joint shall be discarded and not broadcast back onto the mat.

2. For transverse joints, the roller shall not pass over the unprotected end of the freshly laid mixture except when necessary to form a temporary stop. After a temporary stop and prior to the continuation of paving, the tapered edge shall be cut back to its full depth and width on a straight line to expose a vertical face before placing the adjacent pavement. Apply tack coat on all newly exposed contact surfaces before placing any fresh mixture against the joint.

G. Feather-Edge

1. When required by the Contract Drawings, the course shall be feather-edged following the "feather-edge" lines shown on the Contract Drawings.

2. The feather-edging shall be accomplished by decreasing the full thickness of the top course in order to maintain the required profile until the course thickness is approximately 1/2 inch.

3. The remainder of the course shall be placed by broadcasting the mix for purpose of segregating the large aggregate which shall be promptly removed. This shall be immediately followed by the rolling operation.

4.02I.3.03. CORRECTIONS OF DEFICIENCIES.

A. Deficiencies in Surface Smoothness and Grade Tolerance of Top Course.

1. In the event surface smoothness and surface grades fail to comply with the "In-Place Pavement Requirements", specified in 4.02I.1.03.D.1 when measured in accordance with 4.02I.1.04.D.7 and D.8, make corrections as specified below at no additional cost to the City.

2. The area of deficiencies in surface smoothness and/or surface grade tolerance shall be defined as the area enclosed by a line of points half way between the grade in excess of the specified tolerance and the next finished grade shown on the Contract Drawings that meets the specified tolerance, both longitudinally and transversely. The area will be determined by the Engineer from the field survey specified in 4.02I.1.04.D.7 and D.8.

3. Replace pavement deficient in surface smoothness and surface grade tolerance requirements or, at the option of the Engineer, add overlays where required to correct deficiencies in accordance with all applicable requirements of the Contract Drawings and this Section, at times approved by the Engineer, so as not to interfere with operations of the City or others using the area. A minimum thickness of 1-1/2 inches shall be placed as an overlay. Existing pavement shall be removed as necessary to provide square joints for the full depth of the overlay.

4. Where the deficiency in surface grade tolerance is in excess of 0.045 foot above or below the grade shown on the Contract Drawings but where a contour pattern satisfying riding quality and drainage as shown on the Contract Drawings has been established to the satisfaction of the Engineer, pavement may be left in place, subject to the requirements of 4.02I.4.01.C. and 4.02I.4.03.B.

B. Deficiencies in In-Place Air Voids of Top and Bottom Courses.

1. Any pavement sublot with in-place air voids less than 2.0 percent or greater than 8.0 percent (9.0 percent for bottom course) shall be removed and replaced at no additional cost to the City. For paving lifts other than the top lift of asphalt concrete the Engineer may elect to accept deficient material subject to an adjustment to Contract compensation. Adjustments to contract compensation will be made as set forth in 4.02I.4.01.G.

2. In-place air voids will be calculated in accordance with ASTM D 3203 by comparing bulk specific gravity (ASTM D2726) to maximum specific gravity (ASTM D2041).

C. Deficiency in Marshall Stability and Flow

In accordance with 4.02I.1.03.C.2 for Marshall stability and flow, if the Percentage of Material Within Tolerance Limits (PWL) of a lot for either parameter as set forth in 4.02I.4.03.B.5 equals or exceeds 90 percent, the lot shall be acceptable. If the PWL for either parameter is less than 90 percent, determine the reason and take corrective action immediately. If the PWL is below 80 percent for either parameter, stop production and make adjustments to the mix.

D. Deficiency in Final Surface Grade

1. When more than 15 percent of all measurements within a lot exceed the grade tolerance, measured in accordance with 4.02I.1.04.E.11, remove and replace or diamond grind the entire lot in accordance with 4.02I.3.03.A.

2. When any individual measurement exceeds a grade tolerance of plus or minus 0.06 foot, remove and replace the surfact of the area exceeding the tolerance in accordance with 4.02I.3.03.A.

3. Following the correction of deficiencies, the Engineer will retest the final surface of the asphalt concrete. In the event grade tolerance is exceeded, make additional corrections at no cost to the City.

E. Deficiencies in the Performance Grade Requirements of Modified Asphalt

Remove and replace the deficient material on a lot basis, unless the Engineer elects to accept the deficient material subject to an adjustment to Contract compensation. Adjustments to Contract compensation will be made as set forth in 4.02I.4.01.G.

PART 4. ADJUSTMENTS TO CONTRACT COMPENSATION

4.02I.4.01. GENERAL.

A. Where the Contract requires less than 500 tons of asphalt concrete, no adjustments to Contract compensation will be made as specified herein.

B. Where the Contract requires more than 500 tons of asphalt concrete, adjustments to Contract compensation, if made, will be made as specified in 4.02I.4.03.A, B, C, D, and E.

C. Notwithstanding other adjustments to Contract compensation or corrections specified herein for various deficiencies, no payment will be made for material placed above the allowable tolerance above required grade as specified in 4.02I.1.03.D.4, or for material that must be removed to correct deficiencies, or for that material placed in excess of the plus tolerance for the total thickness of each course as specified in 4.02I.1.03.D.3.

D. The computations for adjustments to Contract compensation may require conversion between tons and square yards. Such conversion will be made using the actual computed weight per square yard per inch of thickness determined from the lot's average bulk specific gravity for each type of course times the density of water at 70 degrees F.

E. Adjustments to Contract compensation for in-place mat densities, in-place joint densities for surface courses and Marshall air voids shall be determined by applying percentages, calculated as specified in 4.02I.4.03.B, to the assigned unit price of sixty dollars ($60.00) per ton of asphalt concrete; or in the case of Classified Work, by applying such percentages to the actual Contract Unit Price bid for the appropriate asphalt concrete item in the Schedule of Unit Prices For Classified Work, but in no case less than sixty dollars ($60.00) per ton of asphalt concrete.

F. The percentage adjustment to the unit price specified in 4.02I.4.01.E for Marshall air voids, mat density and joint density of the surface course shall be as follows, except as set forth in 4.02I.4.01.G:

When all values calculated in accordance with 4.02I.4.03.B are 100 percent or greater, the highest value will be used to adjust Contract compensation.

When all values calculated in accordance with 4.02I.4.03.B are less than 100 percent, the lowest value will be used to adjust Contract compensation.

When values calculated in accordance with 4.02I.4.03.B are both greater and less than 100 percent, the product of the highest and lowest value will be used to adjust Contract compensation.

G. When the Engineer elects to adjust Contract compensation in lieu of removal and replace-ment of material with deficient in-place mat air voids in shoulder and in-field area pavements or deficiencies in the modified asphalt performance grade, the percentage adjustment to the unit price specified in 4.02I.4.01.E will be set at 50 percent. No further adjustment will be made for Marshall air voids, mat density or joint density of the surface course.

H. Adjustments for surface smoothness and final surface grade will be based on the final test results, which will be determined after the correction of deficiencies. Reductions in payment will be determined by the following:

$R = A \times D \times F \times 0.01938$

Where:

R = Reduction in payment per lot for surface smoothness or final surface grade, dollars

A = Area of lot, square feet

D = Price per ton of asphalt concrete, assigned unit price or contract unit price as set forth in 4.02I.4.01.E.

F = Contract Unit Price Adjustment Factor specified in 4.02I.4.03.D and 4.02I.4.03.E.

Reductions in payment for failure to meet surface smoothness and final surface grades will be calculated separately for the entire pavement or overlay surface. Deductions from Contract compensation will be made for the requirement (surface smoothness or final surface grade) which results in the greatest payment reduction. Reductions for surface smoothness or final surface grade will be in addition to all other adjustments to Contract compensation.

I. When the Engineer elects to adjust Contract compensation in lieu of correcting areas with deficiencies in surface smoothness, the Contract Unit Price Adjustment Factor specified in 4.02I.4.01.H will set at 0.10.

4.02I.4.02. ADJUSTMENT TO CONTRACT COMPENSATION FOR THICKNESS DEFICIENCY IN PLANT MIX MACADAM BASE COURSE.

A. Where the deficiency of a plant mix macadam base course core exceeds the allowable minus tolerance in plant mix macadam base course thickness, one additional core will be taken by the Engineer in each of the other three sublots adjacent to the core taken in accordance with 4.02I.1.04.E.4. Plant mix thickness for the area of entire lot will be the average of the four cores[6]. Where there is a deficiency in the average of the four cores in excess of the allowable minus tolerance, the total thickness of succeeding courses in the area of entire lot shall be increased by the amount by which the deficiency exceeds the allowable tolerance.

B. For each additional lot resampled in accordance with 4.02I.4.02.A above, there will be deducted from the Contract compensation, in addition to adjustments for deficiencies as hereinafter specified, an amount of One Thousand Dollars ($1,000.00).

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6 *In determining average thickness, if any core exceeds required thickness by more than 1/2 inch, the thickness of that core will be assumed to be 1/2 inch in excess of required thickness.*

4.02I.4.03. ADJUSTMENT TO CONTRACT COMPENSATION FOR DEFICIENCIES IN TOP AND BOTTOM COURSES.

A. Deficiency in Thickness

Thickness of each course, excluding overlay, will be the average of the four cores in the lot for each course[7]. Deductions from Contract compensation for deficiencies in thickness of top course or total of top and bottom courses, modified as may be required by 4.02I.4.02.A, will be the following amounts (deducted per square yard) for the entire area lot:

Amount of Minus Deficiency (inches)	Amount of Payment Deduction (Dollars per Square Yard)
Greater than 1/4 and up to 1/2	1.00
Greater than 1/2 and up to 3/4	2.00

For minus deficiencies in excess of 3/4 inch either in average of four cores or in any individual core, at the Engineer's option, remove and replace deficient pavement or place an overlay that will satisfy all requirements of this Section.

B. Deficiency in In-Place Mat Density, In-Place Joint Densities and Marshall Air Voids

1. Top and bottom courses will be evaluated on a lot basis with each lot coinciding with that defined in 4.02I.1.04.D.1.a.

2. Density

   a. In-place mat density specified in 4.02I.1.03.D.2.a will be evaluated for Section compliance using the average of the random sublot in-place density determinations from cores of the area covered by the lot specified in 4.02I.1.04.D.1.a.

   b. In-place joint density specified in 4.02I.1.03.D.2.b will be evaluated for Section compliance using the average of random sublot in place joint density determinations from cores of the area covered by the lot specified in 4.02I.1.04.D.1.a.

3. Marshall air voids will be evaluated for Section compliance using the average of the random sublot void determinations from hot mix samples from the lot specified in 4.02I.1.04.D.1.a.

4. The Engineer will check each lot for in-place mat densities, in-place joint densities for surface courses only, and Marshall air voids with adjustments to Contract compensation based on the Percentage of Material Within Tolerance Limits (PWL) as determined by 4.02I.4.03.B.5 below and by the "Table For Estimating Percent of Lot Within Tolerance Limits-PWL (Standard Deviation Method)". No deficient lot will be approved without an adjustment to Contract compensation made in accordance with the tables entitled "Adjustments to Contract Compensation For In-Place Mat Density and Marshall Air Voids", and "Adjustments to Contract Compensation for In-Place Joint Density".

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[7] *In determining average thickness, if any core exceeds required thickness by more than 1/4 inch, the thickness of that core will be assumed to be 1/4 inch in excess of required thickness.*

5. Method of estimating Percentage of Material within Tolerance Limits (PWL):

a. Locate sampling positions on the lot by use of random sampling procedures specified in FAA ERLPM, Section 6.

b. Make a measurement at each location, or take a test portion and make the measurement on the test portion in accordance with 4.02I.1.04.D and E.

c. Determine the average value of all samples ($\overline{X}$)

d. Find the standard deviation (S n) by use of the following formula:

$$Sn = \sqrt{d_1^2 + d_2^2 + d_3^2 + ...+ d_n^2/n-1}$$

Where

Sn = standard deviation of the number in the set

$d_1, d_2, =$ deviation of the individual sample values $X_1, X_2, \ldots$ from the average value that is,

$$d_1 = (X_1 - \overline{X}),\ d_2 = (X_2 - \overline{X}),\ d_n = (X_n - \overline{X})$$

n = number of sublots

e. Find the Lower Quality Index (Q_L) by subtracting the lower tolerance limit (L)

from the average values ($\overline{X}$) and dividing the result by standard deviation (S_n).

$$QL = \frac{\overline{X} - L}{S_n}$$

f. Find the Upper Quality Index (Q_U) by subtracting the average value ($\overline{X}$) from the upper tolerance limit (U) and dividing the result by standard deviation (S_n).

$$QU = \frac{U - \overline{X}}{S_n}$$

g. The percentage of material above lower tolerance limit (P_L) and the percentage of material below upper tolerance limit (P_U) will be found by entering the "Table For Estimating Percent of Lot Within Tolerance Limits - PWL (Standard Deviation Method)" with Q_L and Q_u, using the column appropriate to the total number (n) of sublots and reading the number under the column headed "Percent Within Tolerance Limits (PWL)". If the values fall between values shown on the table, use the next higher value for P_L or P_U.

h. For asphalt concrete properties with only a lower tolerance limit (stability, mat density, joint density), the Percentage of Material Within Tolerance Limits (PWL) equals P_L. For asphalt properties with upper and lower tolerance limits (air voids and flow) determine PWL using the following formula:

$$PWL = (P_U + P_L) - 100$$

i. If the tests within a lot include a very large or a very small value which appears to be outside the limits of variation, the Engineer will check for an outlier in accordance with ASTM E 178, at a significance level of 5 percent, to determine if this value will be discarded when computing Percentage of Material Within Tolerance Limits (PWL).

C. Adjustment to Contract compensation for each lot will be made in accordance with the formula contained in the table entitled "Adjustment to Contract Compensation For In Place Mat Density and Marshall Air Voids" by entering the appropriate row with the value of PWL and performing the calculation indicated for that PWL to determine the percentage adjustment of the unit price (specified in 4.02I.4.01.E).

ADJUSTMENT TO CONTRACT COMPENSATION FOR IN-PLACE MAT DENSITY AND MARSHALL AIR VOIDS	
Percentage of Material Within Tolerance Limits (PWL)	Percentage Adjustment of the Unit Price (specified in 4.01 E and 4.01 F)
96-100	106
90-96	PWL + 10
80-90	0.5 (PWL) + 55
65-80	2.0 (PWL) - 65
Below 65	[8]

D. Deficiency in Final Surface Grade Tolerance

Adjustment to Contract Compensation for each lot will be made using the table entitled "Adjustment to Contract Compensation for Exceeding Final Surface Grade Tolerance" by entering the appropriate row with the percentage of all measurements within a lot which exceed the grade tolerance, measured in accordance with 4.02I.1.04.E.11, and reading the number under the column headed "Contract Unit Price Adjustment Factor".

ADJUSTMENT TO CONTRACT COMPENSATION FOR EXCEEDING FINAL SURFACE GRADE TOLERANCE	
Measurements Exceeding Grade Tolerance (Percent)	Contract Unit Price Adjustment Factor
0.0 – 5.0	0
5.1 – 10.0	0.05
10.1 – 15.0	0.25
15.1 and up	Corrective Work Required as specified in 4.02I.3.03.D.

The Contract Unit Price Adjustment Factor is used to calculate adjustments to Contract Compensation as Specified in 4.02I.4.01.H.

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[8] *Remove and replace the lot to meet Section requirements as ordered by the Engineer. In lieu thereof, and subject to the provisions in 4.02I.3.03.B for mandatory removal and replacement, the Contractor and the Engineer may agree in writing that, for purposes of practicality, the deficient lot shall not be removed and adjustment to Contract compensation shall be made at 50 percent of the unit price specified in 4.02I.4.01.E.*

E. Deficiency in Surface Smoothness

Adjustment to Contract Compensation for each lot will be made using the table entitled "Adjustment to Contract Compensation for Surface Smoothness", by entering the appropriate row with the Profile Index, measured and calculated in accordance with 4.02I.1.04.E.10., and reading the number under the column headed "Contract Unit Price Adjustment Factor".

ADJUSTMENT TO CONTRACT COMPENSATION FOR SURFACE SMOOTHNESS	
Average Profile Index (inches per mile)	Contract Unit Price Adjustment Factor
0.0 - 15.0	0.00
15.1 - 16.0	.02
16.1 - 17.0	.04
17.1 - 18.0	.06
18.1 - 20.0	.08
20.1 - 22.0	.10
22.1 and up	corrective work required as specified in 4.02I.3.03.A

The Contract Unit Price Adjustment Factor is used to calculate adjustments to Contract Compensation as Specified in 4.02I.4.01.H.

F. Adjustment to Contract compensation for each lot will be made in accordance with the formula contained in the table entitled "Adjustment to Contract Compensation for In-Place Joint Density" by entering the appropriate row with the value of PWL and performing the calculation indicated for that PWL to determine the percentage adjustment of the unit price (specified in 4.02I.4.01.E.).

ADJUSTMENT TO CONTRACT COMPENSATION FOR IN-PLACE JOINT DENSITY	
Percentage of Material Within Tolerance Limits (PWL)	Percentage Adjustment of the Unit Price (specified in 4.02I.4.01.E and 4.01.F)
96 - 100	106
90 - 96	PWL + 10
80 - 90	0.25 x PWL + 77.5
65 - 80	PWL + 17.5
Below 65	[9]

[9] *Remove and replace the lot to meet Section requirements as ordered by the Engineer. In lieu thereof, and subject to the provisions in 4.02I.3.03.B for mandatory removal and replacement, the Contractor and the Engineer may agree in writing that, for purposes of practicality, the deficient lot shall not be removed and adjustment to Contract compensation shall be made at 75 percent of the unit price specified in 4.02I.4.01.E.*

TABLE FOR ESTIMATING PERCENT OF LOT WITHIN TOLERANCE LIMITS - PWL
(STANDARD DEVIATION METHOD)

Percent Within Tolerance Limits (PWL)	Positive Values of Q_L or Q_U (n=Number of Sublots)					
	n=3	n=4	n=5	n=6	n=7	n=8
99	1.1541	1.4700	1.6714	1.8008	1.8888	1.9520
98	1.1524	1.4400	1.6016	1.6982	1.7612	1.8053
97	1.1496	1.4100	1.5427	1.6181	1.6661	1.6993
96	1.1456	1.3800	1.4897	1.5497	1.5871	1.6127
95	1.1405	1.3500	1.4407	1.4887	1.5181	1.5381
94	1.1342	1.3200	1.3946	1.4329	1.4561	1.4716
93	1.1269	1.2900	1.3508	1.3810	1.3991	1.4112
92	1.1184	1.2600	1.3088	1.3323	1.3461	1.3554
91	1.1089	1.2300	1.2683	1.2860	1.2964	1.3032
90	1.0982	1.2000	1.2290	1.2419	1.2492	1.2541
89	1.0864	1.1700	1.1909	1.1995	1.2043	1.2075
88	1.0736	1.1400	1.1537	1.1587	1.1613	1.1630
87	1.0597	1.1100	1.1173	1.1191	1.1199	1.1204
86	1.0448	1.0800	1.0817	1.0808	1.0800	1.0794
85	1.0288	1.0500	1.0467	1.0435	1.0413	1.0399
84	1.0119	1.0200	1.0124	1.0071	1.0037	1.0015
83	0.9939	0.9900	0.9785	0.9715	0.9672	0.9643
82	0.9749	0.9600	0.9452	0.9367	0.9325	0.9281
81	0.9550	0.9300	0.9123	0.9025	0.8966	0.8928
80	0.9342	0.9000	0.8799	0.8690	0.8625	0.8583
79	0.9124	0.8700	0.8478	0.8360	0.8291	0.8245
78	0.8897	0.8400	0.8160	0.8036	0.7962	0.7915
77	0.8662	0.8100	0.7846	0.7716	0.7640	0.7590
76	0.8417	0.7800	0.7535	0.7401	0.7322	0.7271
75	0.8165	0.7500	0.7226	0.7089	0.7009	0.6958

TABLE FOR ESTIMATING PERCENT OF LOT WITHIN TOLERANCE LIMITS - PWL
(STANDARD DEVIATION METHOD)

Percent Within Tolerance Limits (PWL)	Positive Values of Q_L or Q_U (n=Number of Sublots)					
	n=3	n=4	n=5	n=6	n=7	n=8
74	0.7904	0.7200	0.6921	0.6781	0.6701	0.6649
73	0.7636	0.6900	0.6617	0.6477	0.6396	0.6344
72	0.7360	0.6600	0.6316	0.6176	0.6095	0.6044
71	0.7077	0.6300	0.6016	0.5878	0.5798	0.5747
70	0.6787	0.6000	0.5719	0.5583	0.5504	0.5454
69	0.6490	0.5700	0.5423	0.5290	0.5213	0.5164
68	0.6187	0.5400	0.5129	0.4999	0.4924	0.4877
67	0.5878	0.5100	0.4836	0.4710	0.4638	0.4592
66	0.5563	0.4800	0.4545	0.4424	0.4354	0.4310
65	0.5242	0.4500	0.4255	0.4139	0.4073	0.4031
64	0.4916	0.4200	0.3967	0.3856	0.3793	0.3753
63	0.4586	0.3900	0.3679	0.3575	0.3515	0.3477
62	0.4251	0.3600	0.3392	0.3295	0.3239	0.3203
61	0.3911	0.3300	0.3107	0.3016	0.2964	0.2931
60	0.3568	0.3000	0.2822	0.2738	0.2691	0.2660
59	0.3222	0.2700	0.2537	0.2461	0.2418	0.2391
58	0.2872	0.2400	0.2254	0.2186	0.2147	0.2122
57	0.2519	0.2100	0.1971	0.1911	0.1877	0.1855
56	0.2164	0.1800	0.1688	0.1636	0.1613	0.1592
55	0.1806	0.1500	0.1408	0.1363	0.1338	0.1322
54	0.1447	0.1200	0.1125	0.1090	0.1070	0.1057
53	0.1087	0.0900	0.0843	0.0817	0.0802	0.0792
52	0.0725	0.0600	0.0562	0.0544	0.0534	0.0528
51	0.0363	0.0300	0.0281	0.0272	0.0267	0.0264
50	0.0	0.0	0.0	0.0	0.0	0.0

G. Additional Tests

1. In the event the Contractor elects to question the original density test results obtained from a particular lot for either the mat density or joint density, the Contractor may request additional testing of that lot in writing within 48 hours of receipt of the written test results from the Engineer. Upon written request received from the Contractor for such additional testing, the Engineer will test one additional sample from each sublot from randomly selected locations in the pavement where the lot was placed. The redefined test will consist of the Engineer's original samples and the additional Contractor's requested samples. The "Percent of Material Within Tolerance Limits - PWL" will be determined in accordance with 4.02I.4.03.B.5. The value will be used to determine any adjustment to Contract compensation. Only one resampling per lot will be permitted.

2. Additional tests requested by the Contractor shall be paid for by the Contractor to the City at a cost of One Thousand Dollars ($1,000) per lot tested.

PART 5. MEASUREMENT AND PAYMENT

4.02I.5.01. MEASUREMENT. In determining the area of wearing course or Macadam base course to be paid for, the areas of the spaces occupied by rails, bases of columns, manhole heads, gate boxes, roadway boxes and similar structures will be deducted when they measure more than one (1) square foot and will not be deducted when they measure one (1) square foot or less.

The measured quantity of wearing courses, laid to a specified thickness on an area basis, will be adjusted for deficiencies in accordance with Subsection 4.02I.4.01.

4.02I.6.01. PRICES TO COVER. The unit price bid for

(A) Asphaltic Concrete Wearing Course, Type I-4, per square yard

(B) Asphaltic Macadam Base, Type I-1, per square yard

shall cover the cost of all labor, materials and equipment required to furnish and lay the wearing course or Macadam base course, of the Type specified, complete, in full compliance with the requirements of the specifications, to furnish and lay test strips, to furnish such samples for testing, to take core samples for testing, to perform quality control testing in compliance with these specifications, and to provide such testing equipment, laboratory space and facilities as may be required and to maintain the courses or mixtures, as laid, in good condition as specified in Subsection 1.05.5 of the Standard Specifications.

No separate payment will be made for the cost of furnishing and applying of tack coat as directed under Subsection 4.02I.3.01.(F) above.

Payment will be made under:

Item No.	Item	Pay Unit
4.02 I4-2	ASPHALTIC CONCRETE WEARING COURSE, TYPE I-4 MIX, 2" THICK	S.Y.
4.02 I4-3	ASPHALTIC CONCRETE WEARING COURSE, TYPE I-4 MIX, 3" THICK	S.Y.
4.02 I1-4	ASPHALTIC MACADAM BASE COURSE, TYPE I-1 MIX, 4" THICK	S.Y.
4.02 I1-6	ASPHALTIC MACADAM BASE COURSE, TYPE I-1 MIX, 6" THICK	S.Y.

SECTION 6.19 SB
Steel Backed Timber Guide Rail

6.19SB.1. DESCRIPTION.

Under this Section, the Contractor shall, at the locations shown on the plans and where directed by the Engineer, furnish and install steel backed timber guide rail with timber posts and block-outs; furnish and install approach anchorage units for steel backed timber guide rail with timber posts and block-outs; furnish and deliver steel backed timber guide rail with timber posts and block-outs; and, furnish and deliver approach anchorage units for steel backed timber guide rail with timber posts and block-outs.

6.19SB.2. MATERIALS.

(A) Steel Backed Timber Guide Rail with Timber Posts and Block-Outs

Steel Rails and Hardware. Steel rails, steel back-up plates, splice plates, and all accessory components and hardware shall be fabricated as shown on the plans. Bolt holes, as necessary, may be enlarged or slotted to permit expansion and contraction and to facilitate erection. The steel rails and steel plates shall be straight and of uniform section.

The steel rails and splice plates, shall meet the requirements of ASTM A36 and shall be galvanized.

Bolts, nuts, washers, and other miscellaneous fasteners and hardware shall conform to ASTM A325 and shall be galvanized.

Certified copies of the test results conducted by the manufacturer of the base metal for the physical and chemical requirements shall be furnished for all steel in the manner and form requested by the Department.

Timber Rail, Block-outs, and Posts. The timber rail, block-outs, and posts shall conform to AASHTO 168. The timber rail shall be fabricated from dry, well-seasoned, and dressed rough saw Douglas Fir, Southern Pine, or other species having a stress grade of at least 1.45 kips/sq. inch (10 Mpa). Treat the rail and block-out elements with CCA, ACZA, or ACA preservative treatment conforming to AWPA C14 except the minimum retention shall be 0.6 lb/cu. ft. (9.6 kg/m^3). A timber post that has a thorough check, shake, or end split in the same plane as, or a plane parallel to the bolt hole and extending from the top of the post to within three (3") inches (75 mm) of the bolt hole will be rejected.

Basis of Acceptance. The Contractor shall certify that all wood rails, block-outs, and posts were fabricated from timber and lumber which was measured and inspected by an inspector of the appropriate inspection bureau. The lumber inspector's certificates for the timber and lumber used to fabricate the rails, block-cuts, and posts shall also be furnished to the Engineer. A certificate of inspection from a recognized wood inspection service shall be furnished to the Engineer certifying that the preservative treatment of wood rails, block-outs, and posts conforms to the requirements of this specification.

Concrete. Concrete shall meet the requirements specified for Class A Concrete in Section 501, "Portland Cement Concrete - General," of the current Standard Specifications, Construction and Materials, of the New York State Department of Transportation, Office of Engineering. If the concrete is precast, the concrete shall meet the requirements of Class A Concrete in Section 501, "Portland Cement Concrete - General," except that the requirements for inspection facilities, automated batching controls and recordation do not apply. The batching, mixing, and curing methods and the inspection facilities shall meet the approval of the Department or its representative. The Contractor may submit, for approval by the Engineer, a mix at least equivalent to the specified Class A Concrete, with a minimum cement content of 575 lb/cu. yd. (340 kg/m^3).

Precast concrete anchorage units, when selected as an alternate to cast-in-place units by the Contractor, shall meet the requirements of Section 704-03, "Precast Concrete - General" of the current Standard Specifications, Construction and Materials, of the New York State Department of Transportation, Office of Engineering.

Welding. Fabrication welding shall comply with the subsection "Welding" in the New York State Steel Construction Manual, except that radiographic inspection will not be required.

Galvanizing. Galvanizing shall conform to Subsection 719-01 of the current Standard Specifications, Construction and Materials, of the New York State Department of Transportation, Office of Engineering. Galvanizing shall be Type I, except for hardware which shall be Type II.

Preparation and Painting of Steel Components. All materials used in the preparation and painting of galvanized components shall be as specified in Section 657, "Painting Galvanized and Aluminum Surfaces" of the current Standard Specifications, Construction and Materials, of the New York State Department of Transportation, Office of Engineering. The color of the topcoat shall be such that a properly prepared color chip shall be a reasonable visual match to Federal Standard 595B, Color 20059 (weathered brown). Viewing shall be done under North Standard Daylight.

(B) Anchorage Units.

Back-up plates shall be galvanized and shall conform to ASTM A36. Reinforcement for the anchor shall conform to Subsection 709-01, "Bar Reinforcement, Grade 60" of the current Standard Specifications, Construction and Materials, of the New York State Department of Transportation, Office of Engineering.

6.19SB.3. CONSTRUCTION DETAILS.

(A) Furnishing and Installing Guide Rails.

All component parts shall be erected in the position and manner indicated on the plans, using the Type A Block-out system, and as directed by the Engineer.

Prior to installing guide rail, median barrier, transitions, or end terminals, the Contractor shall determine the locations of all structures, including underground structures, that may be affected by the installation. If the determinations disclose that there are conflicts between the proposed installation of guide rail, median barrier, transition, or end terminal and other structures, including underground structures, the Contractor shall discuss with and recommend to the Engineer alternative locations or types of guide rail, median barrier, transition, or end terminal, subject to the approval of the Engineer, that will not be in conflict with the structure, including underground structure.

Wood posts shall be placed by excavating or by using vibratory driving or impact driving equipment approved by the Engineer. Post driving will be permitted only if alignment and grade tolerances are met and providing no damage is done to the posts during installation. Damaged or misaligned posts shall be removed and redriven or replaced by the Contractor as directed by the Engineer. To facilitate driving, the base of the wood posts may be tapered.

Post and anchor excavations shall be backfilled, and backfilled material compacted in accordance with Subsection 203-3.15 "Fill and Backfill at Structures, Culverts, Pipes, Conduits and Direct Burial Cables" of the current Standard Specifications, Construction and Materials, of the New York State Department of Transportation, Office of Engineering.

All posts shall be aligned to a tolerance of 0.25" (6 mm) for plumb and grade line.

The timber rails shall be field cut to produce a fit at the joints as indicated on the plans. Treat field cuts with 2 coats of chromated copper arsenic.

In order to give the galvanized components a rustic appearance, all exposed galvanized surfaces shall be prepared and painted in accordance with Section 657 of the current Standard Specifications, Construction and Materials, of the New York State Department of Transportation, Office of Engineering.

At the Contractor's option, the galvanized parts may be painted before installation and any damage to the exposed painted surfaces repaired after erection in accordance with the requirements of Section 657 of

the current Standard Specifications, Construction and Materials, of the New York State Department of Transportation, Office of Engineering and the directions of the Engineer.

Upon completion of the installation of the guide rail components, the Contractor shall restore the area to its original state. This may require the Contractor to repave, resod, reseed and mulch all areas disturbed during the guide rail installation, including the areas adjacent to the anchor unit installation.

(B) Furnishing and Delivering Guide Rail Items.

The Contractor shall be required to furnish and deliver an additional quantity of guide rail components for stockpiling purposes. To store these additional items, the Contractor shall furnish, deliver and place one 20' x 8'-6" Dry Freight ISO Container within a New York City Department of Parks and Recreation (DPR) storage yard located within the Borough, as directed by the Engineer. The storage container shall be placed by the Contractor in an area designated by DPR within their storage yard and at the completion of the stockpiling work, under this Section, it shall become the property of the DPR.

The Contractor shall be required to make arrangement with the Superintendent of the DPR yard at least fourteen (14) days in advance of requiring access to the Yard. DPR will provide a sufficiently sized level area for placement of the container and will provide the Contractor with adequate access to this area during normal working hours. The Contractor shall then furnish and deliver the additional guide rail items to the DPR facility, and store all components neatly inside the storage container, under the supervision of the Engineer.

The container shall comply with the requirements of ISO 1496-1 (Series 1 Freight Containers - Specifications and Testing - Part 1: General Cargo Containers for General Purposes), and shall have a gross weight rating of 52,910 pounds. The containers may be new, refurbished, or used. If used, the container shall be in good functional condition and shall be thoroughly clean and free from major defects, to the satisfaction of the Engineer.

The cost of furnishing, delivering and placing storage containers shall be deemed included in the unit prices bid for the various appurtenances items furnished and delivered. No separate payment will be made for any costs related to furnishing, delivering or placing the containers within DPR's storage yard.

6.19SB.4. MEASUREMENT.

(A) FURNISHING AND INSTALLING STEEL BACKED TIMBER GUIDE RAIL WITH TIMBER POSTS AND BLOCK-OUTS. The quantity to be measured for payment shall be the actual number of linear feet of guide rail installed to the satisfaction of the Engineer, measured along the axis of the guide rail, between the limits shown on the plans.

(B) FURNISHING AND INSTALLING APPROACH ANCHORAGE UNITS FOR STEEL BACKED TIMBER GUIDE RAIL WITH TIMBER POSTS AND BLOCK-OUTS. The quantity to be measured for payment shall be the number of approach anchor units installed to the satisfaction of the Engineer.

(C) FURNISHING AND DELIVERIING STEEL BACKED TIMBER GUIDE RAIL WITH TIMBER POSTS AND BLOCK-OUTS. The quantity to be measured for payment will be the actual number of linear feet of guide rails delivered for stockpiling purposes, will be measured by the number of feet, measured along the theoretical axis of the guiderail, as if it were installed, and shall include all timber and steel components shown on the plans, including hardware, excluding concrete anchors. Hardware shall be separately bundled or bagged, and tagged to clearly identify each hardware component.

(D) FURNISHING AND DELIVERING APPROACH ANCHORAGE UNITS FOR STEEL BACKED TIMBER GUIDE RAIL WITH TIMBER POSTS AND BLOCK-OUTS. The quantity to be measured for payment shall be the actual number of anchorage units delivered to the DPR storage yard. Each quantity anchorage units shall be considered to include sufficient components to construct two (2) sections: one 80-foot approach section and one 30-foot departure section, including all timber and steel

components shown on the plans, and all hardware, excluding concrete anchors. Hardware shall be separately bundled or bagged, and tagged to clearly identify each hardware component. Anchorage hardware shall be bundled or bagged separately from guide rail hardware.

6.19SB.5. PRICES TO COVER.

(A) FURNISHING AND INSTALLING STEEL BACKED TIMBER GUIDE RAIL WITH TIMBER POSTS AND BLOCK-OUTS.

The contract price bid for Furnishing and Installing Steel Backed Timber Guide Rail with Timber Posts and Block-Outs shall be a unit price per linear foot and shall cover the cost of all labor, materials, equipment, insurance, and incidentals necessary to complete the work. This work shall include, but not limited to, all painting; furnishing and placing concrete and reinforcement; excavation, backfill, and removal and replacement of damaged or misaligned posts; and, unless otherwise indicated on the plans, the cost of restoring any disturbed areas, paving, sodding, seeding, and mulching, shall be included in the unit price bid.

Payment for each length of guide rail between posts shall include the unit price bid per linear foot multiplied by the measured quantity of guide rail between posts, multiplied by the payment factor for post spacing listed in the following table:

PAYMENT FACTORS FOR STEEL BACKED TIMBER GUIDE RAIL

Post Spacing Center to Center	Payment Factor
10 ft. (3048 mm)	1.0
5 ft. (1524 mm)	1.8
2.5 ft. (762 mm)	2.5

Progress payments will be made for linear feet items for Steel Backed Timber Guide Rail with Timber Posts and Block-Outs when the guide rail is erected in the position and manner indicated on the plans and in a manner approved by the Engineer, exclusive of restoration of disturbed areas and final alignment. Payment will be made, at the unit price bid, for 90% of the quantity erected. The balance of the quantity erected will be paid for upon proper repair of the disturbed areas and alignment of the guide rail to the specified tolerance.

(B) FURNISHING AND INSTALLING APPROACH ANCHOR UNITS FOR STEEL BACKED TIMBER GUIDE RAIL WITH TIMBER POSTS AND BLOCK-OUTS.

The contract price bid for Furnishing and Installing Approach Anchor Units for Steel Backed Timber Guide Rail with Timber Posts and Block-Outs shall be a unit price per each and shall cover the cost of all labor, materials, equipment, insurance, and incidentals necessary to complete the work. This work shall include, but not limited to, all painting; furnishing and placing concrete and reinforcement; excavation, backfill; and, unless otherwise indicated on the plans, the cost of restoring any disturbed areas, paving, sodding, seeding, and mulching, shall be included in the unit price bid.

(C) FURNISHING AND DELIVERIING STEEL BACKED TIMBER GUIDE RAIL WITH TIMBER POSTS AND BLOCK-OUTS.

The contract price bid for Furnishing and Delivering Steel Backed Timber Guide Rail with Timber Posts and Block-Outs shall be a unit price per linear foot and shall cover the cost of all labor, materials, equipment, insurance, and incidentals necessary to complete the work. This work shall include, but not be limited to, stockpiling the material in the storage container delivered to the DPR storage yard, include all timber and steel components shown on the plans, including hardware, but excluding concrete anchors. Hardware shall be separately bundled or bagged, and tagged to clearly identify each hardware component.

(D) FURNISHING AND DELIVERING APPROACH ANCHORAGE UNITS FOR STEEL BACKED TIMBER GUIDE RAIL WITH TIMBER POSTS AND BLOCK-OUTS.

The contract price bid for Furnishing and Delivering Approach Anchorage Units for Steel Backed Timber Guide Rail with Timber Posts and Block-Outs shall be a unit price per each set of anchorage units delivered to the DPR storage yard and shall include the cost of all labor, materials, equipment, insurance, and incidentals necessary to complete the work as specified herein. Each quantity of anchorage units shall be considered to include sufficient components to construct two (2) sections: one 80-foot approach section and one 30-foot departure section, including all timber and steel components shown on the plans, and all hardware, excluding concrete anchors. Hardware shall be separately bundled or bagged, and tagged to clearly identify each hardware component. Anchorage hardware shall be bundled or bagged separately from guide rail hardware.

No separate payment will be made for any costs related to furnishing and delivering the storage container to the DPR storage yard, the cost of which shall be deemed to be included in the unit prices bid for the various guide rail items designated to be furnished and delivered for storage.

Payment will be made under:

Item No.	Item	Pay Unit
6.19 SBTA	FURNISHING AND INSTALLING STEEL BACKED TIMBER GUIDE RAIL WITH TIMBER POSTS AND BLOCK-OUTS	L.F.
6.19 SBTB	FURNISHING AND INSTALLING APPROACH ANCHORAGE UNITS FOR STEEL BACKED TIMBER GUIDE RAIL WITH TIMBER POSTS AND BLOCK-OUTS	EACH
6.19 SBTD	FURNISHING AND DELIVERING STEEL BACKED TIMBER GUIDE RAIL WITH TIMBER POSTS AND BLOCK-OUTS	L.F.
6.19 SBTE	FURNISHING AND DELIVERING APPROACH ANCHORAGE UNITS FOR STEEL BACKED TIMBER GUIDE RAIL WITH TIMBER POSTS AND BLOCK-OUTS	EACH

SECTION 6.47 PCA2
Permeable Concrete Pavers on Stone Base

6.47PCA2.1. DESCRIPTION. Under this Item, the Contractor shall furnish and install Permeable Concrete Pavers on Stone Base of various shapes, sizes, and finishes in accordance with the plans, specifications, and directions of the Engineer.

6.47PCA2.2. MATERIALS:

(A) PERMEABLE CONCRETE PAVERS

Shall be interlocking concrete pavers of the colors and finish, and laid in the pattern indicated on the drawings. Permeable concrete paver dimensions shall be in the range of four inches by nine inches by three inches (4" x 9" x 3") to five inches by ten inches by three and one-quarter inches (5" x 10" x 3-1/4") with a minimum compressive strength of 8,000 p.s.i. such as the Permeable 4" x 9", as manufactured by Hanover Architectural Products, Hanover, PA; Eco-Priora pavement system as manufactured by Unilock, Inc., Brewster NY; Eco-Ridge Paver as manufactured by Nicolock; or an approved equivalent. Finish shall be as selected by the Engineer from the manufacturer's standard range.

The face of pavers shall be at right angles with all sides. All pavers to be used on the work shall be of the same manufacture and thickness.

(B) PERMEABLE STONE BASE

Stone for permeable base shall consist solely of crushed ledge rock and shall be broken stone or gravel, free draining, well graded, uniformly mixed washed stone aggregate. All stone shall be washed with less than 1% passing the No. 200 sieve. The total thickness of the foundation base shall be as shown on the drawings. Foundation base shall consist of a base course and a bedding course. Materials shall be in accordance with ASTM D448 and shall meet the gradations shown below:

Base Course ASTM D448 No. 57 (3/4" Clean Stone)

Sieve Size	Percent Passing
1-1/2"	100 %
1"	95 – 100 %
1/2"	25 – 60 %
No. 4	0 – 10 %
No. 8	0 – 5 %

Bedding Course ASTM D448 No. 8 (1/4" – 3/8" Clean Stone)

Sieve Size	Percent Passing
1/2"	100 %
3/8"	85 – 100 %
No. 4	10 – 30 %
No. 8	0 – 10 %
No.16	0 – 5 %

(C) JOINT FILLER

Joint filler material shall be the same stone sizes as the bedding course specified above.

(D) NONWOVEN GEOTEXTILE

Fibers used in the manufacture of geotextiles, and the threads used in joining geotextiles by sewing, shall consist of long-chain, synthetic polymers, composed of at least 95 percent by weight polyolefins, polyesters, or polyamides. The geotextile and the threads used in sewing geotextiles shall be resistant to chemical attack, rot and mildew. The geotextile shall have no tears or defects which adversely alter its physical properties. They shall be formed into a stable network such that the filaments or yarns retain their dimensional stability relative to each other, including selvages. The geotextile shall have the following requirements:

	ASTM Test	
Elongation	D4595	≥50%
Grab Strength (min)	D4632	665 N (150 lbs)
Tear Strength (min)	D4533	270 N (60 lbs)
Puncture Strength (min)	D4833	370 N (85 lbs)
Permittivity (min)	D4491	1.3/sec
Apparent Opening Size (max)	D4751	0.212 mm (0.0083 in)

The Geotextile shall be Mirafi® 160N, as manufactured by TenCate, Pendergrass, GA; AEF 880, as manufactured by BOOM Environmental Products, New Bedford, MA; FX-60HS manufactured by Carthage Mills, Cincinnati, OH; or another approved equivalent.

6.47PCA2.3 METHODS.

(A) PREPARATION OF SUBGRADE.

Before any stone base is placed upon the fine grade, the fine grade shall be prepared to line and grade and compacted where practicable with an approved self-propelling roller weighing not less than ten (10) tons. All hollows and depressions which develop under rolling shall be filled with acceptable material and shall again be rolled. This process of shaping, filling, and rolling shall be repeated until no depressions develop.

The Contractor shall remove from the subgrade all debris, foreign material, and all other undesirable material designated by the Engineer. The fine grade shall not be muddy or otherwise unsatisfactory when the foundation material is placed upon it. If the fine grade becomes rutted or displaced, due to any cause whatsoever, the Contractor shall regrade same without additional payment.

(B) GEOTEXTILE.

After the ground has been prepared, the fabric shall be rolled directly on the ground. All seams shall be overlapped approximately six (6") inches. No equipment, materials or machinery shall be placed on or be transported over exposed fabric. Stone base shall then be carefully placed to prevent dislocation of the fabric.

If the fabric is damaged during installation, the rupture shall be removed and the damaged area shall be covered with a patch of new fabric which will overlap the undamaged fabric approximately six (6") inches in all directions. All repaired fabric surface costs will be deemed part of the price bid.

(C) PERMEABLE STONE BASE.

Base course material shall be evenly spread on a prepared sub-grade in the position shown on the plans or directed by the Engineer, in four inch (4") lifts, each lift to be rolled while moist with a seven (7) to twelve (12) ton tandem roller (or other approved method satisfactory to the Engineer), to the thickness shown on the plans or as directed by the Engineer. The surface tolerance of the compacted base shall not deviate more than one (1") inch over a ten (10') feet straightedge.

The spreading of the bedding course shall be accomplished using suitable equipment from piles dumped along the proposed site. The bedding course material shall be evenly spread over the compacted base so that the course will have, after rolling, the required thickness. No segregation of large or fine materials will be allowed, but the bedding course, as spread, shall be well graded with no pockets of fine material.

(D) CONCRETE PAVERS.

Pavers shall be clean when placed. Pavers which are not satisfactorily clean shall be washed before placing. The pavers shall be placed according to the patterns shown on the plans, true to line and grade unless otherwise noted on the plans, joints shall be as shown on the drawings. The bedding course in front of the pavement shall not be disturbed or walked on during the laying of the pavers.

After the pavers are placed, the joint filler material shall be swept into the joints and pavers settled into the bedding course with a mechanical vibrator of adequate size. Additional joint filling material shall be added as necessary to fill the joints and the area re-compacted. All joints shall be completely filled and water sprayed to ensure compaction of the joint filler in the joints. After the joints are completely filled, the pavement shall be swept clean.

After a sufficient area of pavement has been laid, the pavement shall be tested with a ten foot straight edge and any depressions exceeding one-quarter (1/4") inch shall be corrected and brought to proper grade. Any pavers disturbed in making replacements or correcting depressions shall be settled into place by ramming.

(E) PATTERN

The paver pattern shall be subject to approval by the Engineer. Laying patterns and paver designs which are approved for the work are indicated on the contract plans. All edges, borders, and corners of paved areas shall be finished to true and neat lines. Special cutting, color patterns, various shapes, and variations in size and finish, are all to be included in the square yard bid price of this item.

6.47PCA2.4. DEFECTS. Where defects in material or installation appear in the completed work, such areas shall be removed to the full depth of the course and the defective material replaced with new for the required thickness of pavement at the expense of the Contractor for such removing and replacing.

6.47PCA2.5. SUBMITTALS. All submittals shall be as per the NYC Department of Transportation's Standard Highway Specifications, General Conditions, Section 1.06.31.

1. Samples: The Contractor shall submit two (2) samples of each color of the pavers they propose to use for approval by the Engineer. All pavers used shall conform to the approved samples.

2. Permeable Stone Base: One three (3 lb.) pound bag for each layer of the permeable stone base shall be submitted for approval, with a sieve analysis and name of supplier attached. All samples shall be clearly labeled with the Contract No. and the name of the supplier.

3. Manufacturer's Literature: If the Contractor is proposing a paver other than the one specified, manufacturer's literature and physical properties must be submitted for approval.

6.47PCA2.6. MEASUREMENT. The quantity of permeable concrete pavers on stone base to be paid for under this item shall be the number of square yards of pavement constructed on site, measured in place, to the satisfaction of the Engineer.

6.47PCA2.7. PRICE TO COVER. The price bid shall be a unit price per square yard of permeable concrete pavers on stone base and shall include all labor, materials, equipment, insurance, and incidental expenses necessary to complete the work including, but not limited to, furnishing and laying permeable

concrete pavers, base course, bedding course, non-woven geotextile, joint filler, and furnishing submittals; all in accordance with the plans, the specifications and the directions of the Engineer.

Unclassified Excavation shall be paid under item No. 6.02 AAN.

Payment will be made under:

Item No.	Item	Pay Unit
6.47 PCA2	PERMEABLE CONCRETE PAVERS ON STONE BASE	S.Y.

SECTION 7.48
Underdrain Wrapped With Filter Fabric

7.48.1. Description. The work shall consist of furnishing and installing approved underdrain wrapped with filter fabric at locations and in the manner shown on the plans or as directed by the Engineer.

7.48.2. Materials. Underdrain shall be perforated polyvinyl chloride pipe 4" diameter conforming to NYSDOT Standard Specification Section 706-18. Filter Fabric shall be composed of a strong polymer-type fiber, resistant to both rot and insects, and formed into a non-woven fabric with the following minimum requirements:

Grab tensile strength, ASTM D4632	180 lbs.
Trapezoid Tear Strength, ASTM D4533	50 lbs.
Puncture Strength (5/16"), ASTM D3787 modified with 5/16" dia. flat tip with 1/32"x45° chamfer	75 lbs.

The fabric will be free of any treatment which might significantly alter its physical properties. During all periods of shipment and storage, the fabric shall be wrapped in a heavy-duty protective covering to protect it from direct sunlight, mud, dirt, dust and other debris.

Plastic filter fabrics which are subject to deterioration by ultraviolet rays shall be protected from sunlight during transport and storage. For those fabrics which are subject to damage from sunlight, the information on the packaging material shall warn against exposing the filter fabric to sunlight.

The manufacturer shall submit certified test data to cover each shipment of material.

7.48.3. Construction Details. Underdrain shall be placed with perforations down and graded as shown on the plans. Prior to placement, the upgrade end of the underdrain shall be closed with a suitable plug and the entire length of pipe wrapped in filter fabric as directed by the Engineer.

Setting bed and tree installation, to be placed under other contract items, shall be done in a manner that will not prove injurious to the fabric or underdrain.

The overlaying material shall be placed within a period of two (2) weeks whether the fabric is subject to damage from sunlight or not. Fabric shall be anchored in an approved manner that will hold it in position.

No traffic of Contractor's equipment will be permitted to travel directly on the underdrain or plastic filter fabric.

7.48.4. Method of Measurement. The quantity of Underdrain Wrapped With Filter Fabric to be measured for payment shall be the number of linear feet (LF) of underdrain pipe installed, wrapped in filter fabric, measured in place along the centerline of the pipe, to the satisfaction of the Engineer.

7.48.5. Price to Cover. The contract bid price per linear foot of Underdrain Wrapped With Filter Fabric shall include the cost of all materials, labor, equipment, insurance, and incidentals necessary to furnish and install underdrain wrapped with filter fabric including, but not limited to, joints and end plug components; all in accordance with the plans, the specifications and the directions of the Engineer.

Payment for the cost of excavation and backfill will be made under Item 9.09.

Payment will be made under:

Item No.	Item	Pay Unit
7.48	UNDERDRAIN WRAPPED WITH FILTER FABRIC	L.F.

SECTION 9.09
Underdrain Filter, Type I

9.09.1. Description.

Under this section, the Contractor shall furnish and install an underdrain filter, Type I, in accordance with the plans, the specifications and the directions of the Engineer.

9.09.2. Materials.

Underdrain Filter Type I shall meet the requirements of Section 605-2.02 of the New York State Department of Transportation's Standard Specifications, as currently amended.

9.09.3. Methods.

The Contractor shall be required to excavate a trench for the installation of an underdrain in accordance with the requirements shown on the plans. All other work shall be performed in accordance with the requirements of Section 605-3.02 of the New York State Department of Transportation's Standard Specifications.

9.09.3. Measurement.

The quantity to be measured for payment will be the number of cubic yards of Type I filter material placed in between the payment lines indicated on the plans with a deduction taken for the space occupied by underdrain pipe (Item No. 7.48).

9.09.4. Price to Cover.

The unit price bid per cubic yard for this item shall include the cost of furnishing all labor, materials, plant, equipment, insurance, and incidentals necessary to complete the work, including, but not limited to, all excavation and backfilling with Underdrain Filter Type I material; all in accordance with the plans, the specifications and the directions of the Engineer.

Payment will be made under:

Item No.	Item	Pay Unit
9.09	UNDERDRAIN FILTER, TYPE I	C.Y.

SECTION HW-900H
Allowance for City Work Acceleration

Under this Section, the Contractor will be paid for City work deemed necessary by DDC's Assistant Commissioner of Construction to accelerate the City work items in the project, which may include premium time for working during non-scheduled work hours and use of additional equipment. The Contractor will also be paid for accelerated City work deemed necessary by DDC's Assistant Commissioner of Construction for temporary restoration of the streets and sidewalks and subsequent removal thereof for City work, if required, due to Special Unscheduled Event periods. Such accelerated City work shall be paid for under this item in accordance with the requirements of Article 26 in the Standard Construction Contract.

Payment made under this Fixed Sum item shall cover the cost of all labor, materials, plant, equipment, insurance, and incidentals necessary to accelerate the City work as ordered by DDC's Assistant Commissioner of Construction.

No guarantee is given that this allowance item will in fact be required in this contract. The estimated "fixed sum" amount shown in the Bid Schedule is included in the total bid solely to ensure a method of payment for any accelerated work performed by the Contractor, as directed by DDC's Assistant Commissioner of Construction.

Payment will be made under:

Item No.	Item	Pay Unit
HW-900H	ALLOWANCE FOR CITY WORK ACCELERATION	F.S.

4. SPECIAL PROVISIONS

The following shall become a part of and apply to the Contract:

A. LINES AND GRADES. The Contractor shall furnish lines and grades in accordance with Section 1.06.27 of the Standard Highway Specifications, except that survey controls established for this project may no longer exist and the Contractor shall be required to re-establish the survey control information using official Borough Survey Control Monuments and Bench Marks, where they exist. The Contractor shall check with Topographic Section of the Borough President's Office as to the reliability and accuracy of the data to be used for lines and grades.

B. SPECIFIC TRAFFIC STIPULATIONS. Under this contract, the Contractor shall perform the work in strict accordance with the requirements of Section 6.70 in the Standard Highway Specifications, specific traffic stipulations as called for on the plans, OCMC Traffic Stipulations attached to the end of these Special Provisions, and the directions of the Engineer. In case of a conflict, the Engineer's decision shall be final.

In addition, the cost of compliance with requirements of the OCMC Traffic Stipulations, unless otherwise provided for, shall be deemed included in the prices bid for all scheduled items.

C. HOLIDAY CONSTRUCTION EMBARGO. A special Holiday Construction Embargo shall be in effect on the Friday of the week preceding Thanksgiving Day week from 6:00 AM to 11:59 PM and again from the Monday of Thanksgiving Day week from 6:00 AM through January 2, at 11:59 PM. Roadway and sidewalk construction activities will be restricted during the embargo period on the streets listed below*.

Any permits issued prior to the date of this notice, for work during this embargo period on the streets listed below which do not already have the permit stipulation "410" are hereby suspended for the period noted above. All permittees must comply with this embargo unless a special waiver is granted by OCMC. Waiver requests must be filed at least thirteen days before Thanksgiving Day, in the Permit Office by filing a "Request for Roadway/Sidewalk Permits During Embargo Periods" and submitting supporting documentation. Waiver requests should only be submitted for critical reasons for a specific project. If a waiver is granted, the applicant will be notified so they can apply for the approved permits. Waivers are

---

* Please note that this embargo only applies to NYCDOT construction permits.

* List of street and maps of the affected locations are available by borough on the Department of Transportation's website at: http://www.nyc.gov/html/dot/html/motorist/trafalrt.shtml

not required for ongoing Building Construction Activity Permits which already include the "410" permit stipulation. Waiver request forms may be obtained at any Permit Office or on the Department of Transportation's website at:

http://www.nyc.gov/html/dot/downloads/pdf/holidayembapp.pdf

Prior to this embargo period all necessary measures must be taken so that all roadways and sidewalks are in proper condition to allow for the expeditious and safe movement of vehicular, bicycle and pedestrian traffic. Tool carts, cable reels, containers, and material stored on roadways must be removed during the embargo period.

The opening of utility access covers is prohibited on any of the streets noted below between the hours of 6:00 AM and midnight unless the utility or Contractor files for an Emergency Authorization Number as required by section 2-07 of the Department of Transportation's Highway Rules. The planned opening of utility access covers may occur during the hours of 12:01 AM and 5:59 AM where no authorization number is required.

Temporary restoration of the streets and sidewalks and removal thereof, if required for the Holiday Embargo period, will be paid for under the appropriate scheduled items.

No extension of time due to the shutdown period will be granted to the Contractor for completion of the work.

D. SPECIAL EVENTS. The Contractor will be precluded from proceeding with work at any of the following locations where the Contractor cannot complete such work three (3) days prior to the date of the scheduled activity and the Holiday Embargo restrictions under Article C, above, shall apply:

June 21st - Go Skateboarding Day

June 23rd - Andean Festival & Walkathon

June 23rd - TSA National Walk

June 25th - Volleyball Courts Ribbon Cutting

June 27th - NYC 5k Police Chase

June 29th-30th - Alianza de Futbol

June 29th - Unity Day

July 7th - Walk for Sobriety

July 11th - Colombian Independence

July 14th, 15th, 16th - MLB All Star Festivities

July 20th - MLS Futbolito

July 21st - NYRR Queens 10k

July 21st - Colombia in the Park

July 23rd - Mommy Music & Me

July 24th - Shakespeare in the Park

July 27th - Moving Towards a Cure for Brain Tumors 5k Walk/Run

July 27th - BlackOut Secular Rally

July 28th - Junta Hispana

August 1st - NYC Parks Movie Night

August 6th - Puppets in the Park

August 6th - NYPD National Night Out

August 7th - Shakespeare in the Park

August 10th-11th - Hong Kong Dragon Boat Festival

August 24th-September 9th - US Open

September 8th - NYC Century Bike Tour

September 22nd - Marathon Hispano

Septemeber 28th - 2nd Annual NYC Rett Syndrome Strollathon

September 29th - Walk to End Alzheimer's

October 5th - National Women's Health Week 5k Race

October 6th - Queens Walk to Cure Diabetes

October 19th - Run Against Prejudice 10k

October 20th - Walk for Our Water

October 26th - Men's Urbanathlon

October 27th - RUNDEAD 5k

November 23rd - 5k Race (rupanata)

No extension of time due to the shutdown period will be granted to the Contractor for completion of the work.

However, where the Contractor is notified by the Engineer of a Special Unscheduled Event, such as a civic parade or other official activity, party, etc., not listed above, then the Holiday Embargo restrictions under Article C, above, shall apply. Temporary restoration of the streets and sidewalks and subsequent removal thereof for City work, if required, for those Special Unscheduled Event periods will be paid for under Item No. HW-900H and the Contractor will be granted an extension of time for the completion of the work, equal to the duration of the ordered shut-down.

E. DISPOSAL OF EXCESS EXCAVATED MATERIAL. All excess excavated material, with the exception of contaminated material, shall become the property of the Contractor and shall be properly disposed of away from the site, at the Contractor's expense. Contaminated material shall be disposed of separately in accordance with contract requirements.

F. CONTRACT ITEMS THAT INCLUDE BACKFILL AS A PART OF THEIR WORK. The following shall pertain to all contract items that have backfill as a part of their work: Backfilling shall comply with Subsection 4.11.3 of the Standard Specifications and no additional payment will be made for any Highway or Street Lighting work item requiring Contractor to furnish additional fill material to meet these requirements when backfilling.

G. SCHEDULING PRESENTATION. The Contractor shall submit construction schedule in the form of a bar chart using "Microsoft Project 2010" or latest version, or in an approved equivalent program which shall be directly and fully translatable into Microsoft Project 2010 format, within seven days of the initial Pre-Construction Meeting. Each bar in the chart shall show dates the Contractor plans to start and complete each construction activity after the initial Pre-Construction Meeting. Bar chart shall show the order and interdependence of all activities necessary to complete the work and the sequence in which activity is to be accomplished as planned by the Contractor and in accordance with all subcontractors or suppliers whose work shall be shown on the bar chart. The Contractor shall submit the bar chart for the Engineer's review and revise it, if required, until approved by the Engineer.

The Contractor shall submit weekly progress status update reports or as otherwise directed by the Engineer. The Contractor shall submit updated bar chart every month. The revised bar chart shall be made in the same form and detail as the original submittal and shall be accompanied by an explanation of the reasons for the revisions all of which shall be subject to approval by the Engineer.

H. ACCELERATED PROJECT SCHEDULE AND COMBINATION OF STAGES. Contractor shall plan and/or stage his/her work schedule using all hours/days available. Contractor is advised that all applicable unit prices shall include, for the purpose of this contract, all overtime costs, premium time costs, shift differentials required to complete construction within the specified "Time(s) of Completion" stipulated in this contract.

Contractor shall be permitted to accelerate this project, to combine stages and/or work sequences. Any such changes shall be shown in the construction schedule, to be furnished in accordance with the General Provisions of the Standard Specifications and the above "SCHEDULING PRESENTATION" Article, and shall be submitted for approval of the Engineer.

I. NO EXTENSION OF TIME FOR WINTER SHUT-DOWN. Where the Contractor's approved work schedule for installing sidewalk, curb, roadway base and/or pavement falls within the winter period of December 1st through April 1st, the Contractor will NOT be granted an extension of time for completion of this contract due to the winter shut-down period, unless otherwise provided in Schedule A.

J. GEOTECHNICAL REPORT. For available information contact:

Jorge Tua, P.E.
NYC Department of Design & Construction
30-30 Thomson Ave, 3rd Floor
Long Island City, NY 11101
718-391-2101(P), 718-391-2400(F)

K. START OF CONTRACT WORK. The Contractor is notified that it is the intent of this Agency to commence work promptly after registration of the contract and to order the Contractor to commence work within two (2) months after registration.

L. PRICES TO INCLUDE. No direct payment will be made for costs incurred in complying with the foregoing Special Provisions, unless otherwise provided. Said costs will be deemed to have been included in the prices bid for all the scheduled contract items.

NEW YORK CITY Department of Transportation

JANETTE SADIK-KHAN, Commissioner

OCMC TRAFFIC STIPULATIONS

August 30, 2013

OCMC FILE NO: QEC 13-415
CONTRACT NO: P-USTA1
PROJECT: USTA UN AVENUE CONNECTOR ROAD RELOCATION

LOCATION(S): FLUSHING MEADOWS CORONA PARK - MERIDIAN ROAD FROM EXISTING CONNECTOR ROAD TO QUEENS MUSEUM OF ART AND NEW CONNECTOR ROAD FROM MERIDIAN ROAD TO UNITED NATION AVENUE NORTH

PERMISSION IS HEREBY GRANTED TO THE **NEW YORK CITY DEPARTMENT OF DESIGN AND CONSTRUCTION / CITY OF NEW YORK PARKS AND RECREATION** 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:

B. MAINTENANCE AND PROTECTION OF TRAFFIC

- OCMC's review for traffic stipulations are not applicable due to the fact that all streets and roadways pertain to City of New York Parks and Recreation.

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 PERMITTEE IS NOT AUTHORIZED TO ENTER, OCCUPY OR USE ANY PUBLICLY-OWNED OR PRIVATELY OWNED, NON-PAVED, LANDSCAPE OR NON-LANDSCAPED LOCATION WITHOUT SPECIFIC WRITTEN PERMISSION. WHEN THE LOCATION IS WITHIN THE RIGHT-OF-WAY OF A LIMITED-ACCESS ARTERIAL HIGHWAY, **WRITTEN** APPROVAL FROM THE NYCDOT OCMC-HIGHWAYS IS REQUIRED. WHEN THE LOCATION IS WITHIN THE RIGHT-OF-WAY OF A PUBLIC STREET OR PUBLIC PARK, **WRITTEN** APPROVAL FROM THE NEW YORK CITY DEPARTMENT OF TRANSPORTATION OR NEW YORK CITY DEPARTMENT OF PARKS AND RECREATION IS REQUIRED. WHEN THE LOCATION IS WITHIN THE RIGHT-OF-WAY OF ANY OTHER JURISDICTION SUCH AS PRIVATE PROPERTY, STATE, FEDERAL ETC., IT IS THE PERMITTEE'S RESPONSIBILITY TO DETERMINE THE PROPERTY OWNER AND OBTAIN THE WRITTEN APPROVAL.
5. THE PERMITTEE SHALL ADHERE TO THE NYCDOT BUREAU OF BRIDGES' SPECIAL PROVISIONS FOR LANDSCAPE PROTECTION, MAINTENANCE AND RESTORATION, ITEMS 1.18.15 THROUGH 1.18.19, WHENEVER AND WHEREVER ANY OF THE PERMITTEE'S ACTIVITIES OCCUR WITHIN A LIMITED ACCESS ARTERIAL HIGHWAY RIGHT - OF - WAY.
6. NO DEVIATION OR DEPARTURE FROM THESE STIPULATIONS WILL BE PERMITTED WITHOUT THE PRIOR WRITTEN APPROVAL FROM THE OCMC-STREETS. REQUEST FOR SUCH MODIFICATIONS SHALL BE SUBMITTED TO THE OFFICE OF THE OCMC-STREETS, NEW YORK CITY DEPARTMENT OF TRANSPORTATION, A MINIMUM OF TWENTY (20) DAYS IN ADVANCE FOR CONSIDERATION.
7. FOR THIS PROJECT THE CONTRACTOR SHALL FURNISH, INSTALL AND MAINTAIN ALL NECESSARY ADVANCE WARNING AND DETOUR SIGNS, TEMPORARY CONTROL DEVICES, BARRICADES, LIGHTS AND FLASHING ARROW BOARDS IN ACCORDANCE WITH THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES," THE TYPICAL SCHEMES INCLUDED IN THIS SPECIFICATION; AND AS ORDERED BY THE ENGINEER-IN-CHARGE AND THE OCMC-STREETS.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR IDENTIFYING HIS CONSTRUCTION SIGNAGE. THE IDENTIFICATION SHALL INCLUDE THE CONTRACTOR'S NAME, SPONSORING AGENCY NAME AND THE CONTRACT NUMBER. THE IDENTIFICATION SHALL BE PLACED ON THE BACK OF THE SIGN. THE LETTERING SHALL BE THREE (3) INCHES HIGH.
9. THE OCMC-STREETS RESERVES THE RIGHT TO VOID OR MODIFY THESE STIPULATIONS SHOULD CONSTRUCTION FAIL TO COMMENCE WITHIN TWO (2) YEARS OF THE SIGNED DATE OF THESE STIPULATIONS.
10. THE CONTRACTOR MUST COMPLY WITH ALL CONSTRUCTION EMBARGOS ISSUED BY THE NYCDOT INCLUDING THE HOLIDAY EMBARGO.

NYC Department of Transportation
Bureau of Permit Management and Construction Control
55 Water Street - 7th Floor, New York, NY 10041
T: 212.839.9621 F: 212.839.8970
www.nyc.gov/dot

OCMC FILE NO: QEC 13-415
CONTRACT NO: P-USTA1
PROJECT: USTA UN AVENUE CONNECTOR ROAD RELOCATION

JOSEPH P. NOTO
EXECUTIVE DIRECTOR
OCMC-STREETS

XIOMARA AGUILERA
PROJECT MANAGER
OCMC-STREETS

JPN/dlb

THE CITY OF NEW YORK Department of Sanitation

S. ELIZABETH SEARLE
Assistant Commissioner
for Legal Affairs

Bureau of Legal Affairs
44 Beaver Street
New York, NY 10004
Telephone (212) 837-8110
FAX (212) 837-8243

Department of Sanitation Rules and Regulations Governing
Non-Putrescible Solid Waste Transfer Stations

INTERPRETIVE MEMORANDUM # 2
February 14, 1995

Subject: Temporary Storage and Processing of Construction and Demolition Debris by New York City Agency Contractors

Contractors performing construction work for New York City agencies may be required to excavate dirt, concrete, rock, gravel and similar materials ("construction materials") from a contract site or to remove from a contract site construction materials resulting from construction, demolition, alteration, repair or renovation of structures, streets or buildings. On street construction projects, construction materials required to be excavated or removed may also include asphalt. The purpose of this Interpretive Memorandum is to (a) define the circumstances under which the Department of Sanitation (the "Department") will not deem its Rules and Regulations Governing Non-Putrescible Solid Waste Transfer Stations (the "Rules") to apply to the temporary storage, processing and/or stockpiling (collectively, "stockpiling") of such construction materials and (b) the procedure for ensuring such exemption. It is the responsibility of the contracting agency to oversee its contractors' compliance with the Rules and with this Interpretive Memorandum.

1. When No Transfer Station Permit is Required

Where a City contractor has:

(a) set aside an area of a contract site for stockpiling construction materials excavated from and/or intended for that site; or

(b) received written approval from the contracting agency for an off-site stockpiling location,

the Department will not deem such stockpiling location a transfer station and will not require the contractor to obtain a transfer station permit so long as:

(c) no construction materials or debris from off the contract site are received at the designated location for subsequent transfer to another location (other than the contract site); and

(d) the temporary stockpiling location is clearly described as such in the contract or clearly approved by the construction agency and designated as such in writing to the Department by the agency; and

(e) the construction agency represents in writing to the Department that such agency will monitor the temporary stockpiling location and ensure its clean-up and restoration pursuant to the procedures set out in this memorandum.

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Help Reduce New York's Waste.

Example: Street Construction Projects

As part of a contract for street construction, the contractor may be working at one end of a street and using an area at the other end of the street for the temporary stockpiling of construction materials. Both ends of the street are part of the construction contract site. In addition, the contractor may have leased an off-site location for temporary stockpiling of materials, which, following processing, will be reincorporated into the contract site, with some portion of the remainder designated for delivery to a Department disposal facility. Neither location will be regulated by the Department as a transfer station so long as the procedures set out in this memorandum are followed.

2. Procedure for Exception.

Upon a City construction agency's approval of any location to be designated as a temporary processing, storage or stockpiling area, that agency must determine that (a) its contract with the contractor provides for clean-up and restoration of such area by, for example, the contractor's posting of a restoration bond and/or by contractual set-off and (b) the agency has adequate procedures for monitoring the designated area to ensure that it does not violate the provisions set forth in this memorandum and that such location is cleaned up and restored at the completion of the contract work.

The City construction agency must submit an official letter to the Department acknowledging compliance with both (a) and (b) immediately above and representing that the agency will ensure the contractor's compliance. *The letter to be submitted must be in substantially the following form, addressed to the Director, Bureau of Waste Disposal,* Department of Sanitation, 125 Worth Street, Room 726, New York, NY 10013:

"The New York City Department of _____ (the "Agency") has awarded a construction contract to _____ (Contractor) _____ (the "Contractor") for work to be performed at _____ (Contract Site) _____.

a. This Agency has approved the following locations to be used by the Contractor for the temporary storage, processing and/or stockpiling of construction materials (the "Stockpiling Locations") excavated from the construction site or intended for the construction site:

_____

_____

_____

_____

b. The terms of the contract require the Contractor to clean up and restore the Stockpiling Locations, whether on or off the contract site, at or before the completion of the contract work.

c. This Agency assumes responsibility for the monitoring of Stockpiling Locations to ensure that only materials received from and/or intended for the construction site are stockpiled at such locations and we will enforce clean-up and restoration of such Locations at the end of their use for temporary stockpiling or at the termination of the contract, whichever occurs earlier, through restoration

bonding requirements and/or contractual set-off provisions such that the costs of clean-up and restoration will not become a charge to the Department or the City. "

3. When a Transfer Station Permit is Required

A transfer station permit will be required under any circumstances other than those outlined above. Except in the specifically defined circumstances set forth in this memorandum, any operator of a location or facility which receives, processes, stores or stockpiles construction and demolition debris or fill material for purposes of transfer to another location, including to a New York City Department of Sanitation facility, and whether or not under contract to the Department for the delivery of such materials, will be fully subject to the Department's transfer station rules and liable for enforcement for violations.

(NO TEXT ON THIS PAGE)

ATTACH TO CONTRACT DOCUMENTS

THE CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
INFRASTRUCTURE DIVISION
BUREAU OF DESIGN

PROJECT ID: P-USTA1

USTA UN AVENUE CONNECTOR ROAD RELOCATION: MERIDIAN ROAD FROM EXISTING CONNECTOR ROAD TO QUEENS MUSEUM OF ART; AND, NEW CONNECTOR ROAD FROM MERIDIAN ROAD TO UNITED NATIONS AVENUE N

INCLUDING MERIDAN ROAD WIDENING, NEW CONNECTOR ROAD, SEWER, WATER MAIN, CATCH BASIN, ELECTICAL, TELECOMMUNICATION, STREET LIGHTING, AND LANDSCAPING WORK

Together With All Work Incidental Thereto

BOROUGH OF QUEENS

ADDENDUM NO. 2

DATED: August 16, 2013

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.

The Standard Sewer Specifications of the Department of Environmental Protection (dated August 1, 2009), Sewer Design Standards of the Department of Environmental Protection (dated (September 2007) Revised January 2009), Standard Water Main Specifications of the Department of Environmental Protection (dated August 1, 2009), Water Main Standard Drawings of the Department of Environmental Protection (latest revisions), 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 SPECIFICATIONS
D. AMENDMENTS TO THE STANDARD WATER MAIN SPECIFICATIONS

A. NOTICE TO BIDDERS

(1) (A) The Contractor is advised that copies of the Standard Sewer Specifications (dated August 1, 2009), Sewer Design Standards (dated (September 2007) Revised January 2009), Standard Water Main Specifications (dated August 1, 2009), Specifications For Trunk Main Work (dated March 2012) 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, 3rd 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 it is the intent of this Agency to commence work promptly after registration of the contract and to order the Contractor to commence work within two (2) months after 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, 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 Water Main Specifications of the Department of Environmental Protection (dated August 1, 2009), the Water Main Standard Drawings of the Department of Environmental Protection (latest revisions), the Specifications For Trunk Main Work (dated March 2012), and the contract drawings, shall be replaced with Bolted Split-Sleeve Restrained Coupling.

(8) 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.

(9) 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.

B. AMENDMENTS TO THE STANDARD HIGHWAY SPECIFICATIONS

(NO TEXT)

C. AMENDMENTS TO THE STANDARD SEWER SPECIFICATIONS

(1) **Refer** to **Subsection 1.06.3 - Hours Of Work**, Page I-4:
Add the following to **Subsection 1.06.3**:

(A) HOLIDAY CONSTRUCTION EMBARGO - A special Holiday Construction Embargo shall be in effect on the Friday of the week preceding Thanksgiving Day week from 6:00 AM to 11:59 PM and again from the Monday of Thanksgiving Day week from 6:00 AM through January 2, at 11:59 PM. Roadway and sidewalk construction activities will be restricted during the embargo period on the streets listed below*.

Any permits issued prior to the date of this notice, for work during this embargo period on the streets listed below which do not already have the permit stipulation "410" are hereby suspended for the period noted above. All permittees must comply with this embargo unless a special waiver is granted by OCMC. Waiver requests must be filed at least thirteen (13) days before Thanksgiving Day, in the Permit Office by filing a "Request for Roadway/Sidewalk Permits During Embargo Periods" and submitting supporting documentation. Waiver requests should only be submitted for critical reasons for a specific project. If a waiver is granted, the applicant will be notified so they can apply for the approved permits. Waivers **are not** required for ongoing Building Construction Activity Permits which already include the "410" permit stipulation. Waiver request forms may be obtained at any Permit Office or on the Department of Transportation's website at:

http://www.nyc.gov/html/dot/downloads/pdf/holidayembapp.pdf

Prior to this embargo period all necessary measures must be taken so that all roadways and sidewalks are in proper condition to allow for the expeditious and safe movement of vehicular, bicycle and pedestrian traffic. Tool carts, cable reels, containers, and material stored on roadways must be removed during the embargo period.

The opening of utility access covers is prohibited on any of the streets noted below between the hours of 6:00 AM and midnight unless the utility or contractor files for an Emergency Authorization Number as required by section 2-07 of the Department of Transportation's Highway Rules. The planned opening of utility access covers may occur during the hours of 12:01 AM and 5:59 AM where no authorization number is required.

Temporary restoration of the streets and sidewalks and removal thereof, if required for the Holiday Embargo period, will be paid for under the appropriate scheduled items.

No extension of time due to the shutdown period will be granted to the Contractor for completion of the work.

* **Please note that this embargo only applies to NYCDOT construction permits. List of street and maps of the affected locations are available by borough on the Department of Transportation's website at: http://www.nyc.gov/html/dot/html/motorist/trafalrt.shtml**

(2) **Refer** to **Subsection 1.06.14 - Notice To Utility Companies, Etc., To Remove Structures Occupying Place Of Sewers, Water Mains Or Appurtenances**, Page I-10:
Add the following to **Subsection 1.06.14**:

(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) 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

(3) 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 or at John.piazza@twcable.com.

(3) **Refer** to **Subsection 1.06.20 - Contractor To Notify City Departments**, Page I-12:
Add the following to **Subsection 1.06.20**:

(1) N.Y.C. D.E.P., BUREAU OF WATER AND SEWERS OPERATIONS

The Contractor shall notify Mr. James Garin, P.E., Assistant Commissioner, 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.

(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. Thomas Russo at (718) 390-8013.

(5) N.Y.C. TRANSIT AUTHORITY

The Contractor is advised that bus routes as well as bus stops, within the scope of this project may be affected during construction operations. The Contractor shall notify the Transit Authority at least two (2) weeks prior to the start of construction, in order to make the necessary arrangements.

Arrangements shall be made through:

Ms. Sarah Wyss
Director Of Short Range, Bus Service Planning (SRB)
New York City Transit
2 Broadway, 17th Floor
New York, N.Y. 10004
Telephone No. (646) 252-5624
sarah.wyss@nyct.com

(4) **Refer** to **Subsection 1.06.29 - Contractor To Provide For Traffic**, Page I-15:
Add the following to **Subsection 1.06.29**:

(1) Traffic Stipulations:

The Contractor shall refer to Traffic Stipulations identified in the maintenance of traffic requirements under Highway Contract No. P-USTA1.

(5) Refer to **Section 1.08 - Miscellaneous Provisions**, Page I-19:
Delete Subsection 1.08.2 - Vendors in its entirety:
Substitute the following new **Subsection 1.08.2**:

1.08.2 VENDORS

Prior to starting work, the Contractor shall submit in writing to the Engineer the names of all vendors and manufacturers the Contractor intends to use. Unless otherwise specified in the contract documents or a written exception is granted by NYCDDC, the Contractor shall submit only one (1) vendor or manufacturer for each product that is to be incorporated in the contract. The use of multiple vendors or manufacturers to supply the same product will be prohibited, unless otherwise specified in the contract documents or a written exception is granted by NYCDDC. If the vendor or manufacturer is not approved, the Contractor will be notified to either submit another vendor or manufacturer, or have their proposed vendor or manufacturer submit a request for approval from NYCDDC. The Contractor will be prohibited from using the vendor or manufacturer until approval of the vendor or manufacturer has been acquired from NYCDDC.

(6) Refer to **Section 1.08 - Miscellaneous Provisions**, Page I-20:
Add the following new **Subsection 1.08.7**:

1.08.7 SUBMITTAL OF SCHEDULE LOG

The Contractor's attention is directed to **Article 9 - Progress Schedule** of the Contract. The Contractor shall submit along with the proposed progress schedule the following: A schedule log in Excel Format (tied to the proposed progress schedule) indicating a description of and the schedule submission dates for all required submittals, shop drawings, approval requests, design mixes, reports, samples, etc., as required by the specifications and the terms of the contract.

(7) Refer to **Section 2.05 - Precast Reinforced Concrete Pipe**, **Subsection 2.05.4 - Materials, Workmanship And Finish**, Page II-10:
Delete from **Subsection 2.05.4**, paragraph (A) CONCRETE in its entirety:
Substitute the following:

(A) CONCRETE - The Concrete shall comply with the requirements of **General Specification 11 - Concrete, as modified in Section 2.15**, and be a homogeneous mixture of such proportions and quality that the pipe will conform to the design and test requirements of these specifications.

(8) Refer to **Section 2.15 - Concrete**, **Subsection 2.15.3 - Modifications**, Page II-23:
Delete from **Subsection 2.15.3**, **Reference Number D 3.2.1** together with its paragraphs in their entirety:
Substitute the following:

D 3.2.1 DELETE 3.2.1 to 3.2.9 of GS11 and SUBSTITUTE the following:

All concrete mix designs shall be subject to approval by DDC's Quality Assurance and Construction Safety (QACS) Bureau and in accordance with their "MIX DESIGN, LABORATORY AND PLANT APPROVAL PROTOCOL". Copies of this protocol may be obtained at the preconstruction meeting or from the Engineer. Before the Contractor begins to manufacture concrete, the Contractor shall secure DDC's QACS approval of the mix design the Contractor proposes to use.

The Contractor shall submit for this purpose a statement, in writing, of the sources of all ingredient materials, the type and brand of the cement and the number of pounds of each of the materials in a saturated surface-dry condition making up one (1) cubic yard of concrete. The range of water-cement ratios within which the concrete will be manufactured and the method of mixing to be employed shall also be stated. The mix design submittal shall include gradation of aggregates, specific gravities of ingredients, unit weight, mix proportion for each batch (a minimum of four (4) batches except in case of precast plants where one specific mix may be proposed), compressive strength test results for each mix at 7-days, 28-days (high-early strength mixes may require 6-hours, 24-hours, 3-days and shrinkage test as per the requirements), and graphical representation of strength vs. W/C projected in hours/days.

The Contractor may submit for approval concrete mixes that (within one (1) year of the contract) have been previously approved and used on other jobs with any Bureau of the Department of Environmental Protection or the Department of Design and Construction. Such submittals shall contain evidence that the concrete mix was approved within one (1) year of this contract and shall show that the concrete will be produced at the same mix plant, that the cement and admixtures are the same type (though not necessarily the same brand), that the water/cement ratio is the same and that adjustments have been made in the mix for air content, specific gravity and gradation of the aggregates.

If the Contractor elects to submit a concrete mix that was not previously approved, the Contractor shall submit the new concrete mix in accordance with Chapters 2 and 3 of General Specification 11 as modified herein.

(9) **Refer** to **Section 2.15 - Concrete**, **Subsection 2.15.3 - Modifications**, Page II-26:
Add to **Subsection 2.15.3**, before **Reference Number D 8.2** the following:

D 7.3.3 ADD the following to Subsection 7.3.3 of GS11:

Each Portland cement concrete batching plant shall be subject to approval by DDC's Quality Assurance and Construction Safety (QACS) Bureau and in accordance with their "MIX DESIGN, LABORATORY AND PLANT APPROVAL PROTOCOL". Copies of this protocol may be obtained at the preconstruction meeting or from the Engineer. The minimum requirement for approval is that the proposed Portland cement concrete batching plant must be on the New York State Department of Transportation (NYSDOT) approved list for the current construction season.

The minimum requirement for approval of a precast concrete plant is that the proposed plant must be on the NYSDOT approved list. A waiver for this requirement may be granted by the DDC's Quality Assurance and Construction Safety (QACS) Director for special products that no NYSDOT approved plant is capable of producing.

Each Portland cement concrete batching plant shall also be subject to auditing and approval of the DDC's Director of Quality Assurance and Construction Safety (QACS). The Director of QACS may at any time discontinue the use of any previously approved equipment if nonconformance with the specifications results during the progress of the work. When the Director of QACS discontinues the use of the plant, production will not be acceptable for Department work until corrective measures satisfactory to the Director are carried out.

(10) **Refer** to **Section 2.15 - Concrete**, **Subsection 2.15.3 - Modifications**, Page II-26:
Delete from **Subsection 2.15.3**, **Reference Number D 16.3** together with its paragraphs in their entirety:
Substitute the following:

D 16.3 Testing Service - ADD the following:

The Contractor shall retain the services of an independent testing laboratory to provide for the services outlined in 16.3.1.4 to 16.3.1.11 of GS11, with the exception of those tests specified herein to be performed by the Engineer and the City Retained Laboratory.

All laboratories shall be subject to approval by DDC's Quality Assurance and Construction Safety (QACS) Bureau and in accordance with their "MIX DESIGN, LABORATORY AND PLANT APPROVAL PROTOCOL". Copies of this protocol may be obtained at the pre-construction meeting or from the Engineer. The minimum requirement for approval is that the laboratory must have the current AMRL/AASHTO R-18 accreditation in the category of service proposed and must be currently licensed by the NYC Department of Buildings (DOB).

(11) **Refer** to **Section 2.15 - Concrete**, **Subsection 2.15.3 - Modifications**, Page II-26:
Delete from **Subsection 2.15.3**, **Reference Number D 16.8** together with its paragraphs in their entirety:
Substitute the following:

D 16.8 Responsibilities and Duties of Contractor - ADD the following:

The Contractor may, if the Contractor so desires, take cylinders corresponding to those taken by the Engineer for the City Retained Laboratory. However, determination of payment will be based solely on the cylinders taken by the Engineer for the City Retained Laboratory.

CONCRETE TEST CYLINDERS

The Contractor will be responsible for safe delivery of concrete cylinders to the Department of Design and Construction Laboratory, within two (2) days after molding, where they will be properly stored and cured until the date of test, and tested by others, upon removal from the curing room. The Department of Design and Construction testing laboratory will provide the services for the curing and breaking of the test cylinders.

The Contractor shall provide empty cylinder molds and facilities for the proper care of these cylinders while on the site, and shall safeguard them against injury and protect them from the elements.

The Engineer will be responsible for the preparation, documentation and labeling of the cylinders and for notifying the Contractor, at least twenty-four (24) hours in advance, when a shipment of cylinders is ready for delivery, so that cylinders can be tested for the standard twenty-eight (28) day and seven (7) day tests. Cylinders are to be delivered by the Contractor to a designated area near 30-30 Thomson Avenue, Long Island City, New York, or where otherwise directed within the City of New York.

The Contractor shall make arrangements to protect all cylinders from damage during loading, transport to, and unloading at a Department of Design and Construction designated testing laboratory, and shall obtain a receipt for delivered cylinders, which shall be submitted to the Engineer.

(12) **Refer** to **Section 4.06 - Backfilling**, **Subsection 4.06.3 - Method Of Depositing All Backfill**, Page IV-18:

(A) Add the following paragraph to beginning of **Subsection 4.06.3**:

At the preconstruction meeting, the Contractor shall submit for approval a full description of the Contractor's proposed methods to be used for all backfilling operations including, but not limited to, equipment, backfill material, depth of compaction layers, and trench locations where each is to be employed. In the field, the Contractor shall be required to demonstrate that the Contractor's methods of backfilling and compaction shall obtain a minimum of ninety-five (95) percent of Standard Proctor Maximum Dry Density.

(B) Delete from **Subsection 4.06.3**, the fourth paragraph in its entirety:
Substitute the following:

Unless otherwise approved in writing by the Engineer, backfilling of the remainder of the trenches and excavations from a point not less than two (2) feet above the top of the sewer conduit (i.e. sewer pipes on cradles or encasements, reinforced concrete sewers, basin and house connections, culverts, etc.) to the underside of the pavement shall be progressively deposited in uniform and successive horizontal layers not exceeding twelve (12) inches in depth for the entire width of the trench or excavation and each successive layer shall be solidly compacted by mechanical tamping or other approved means so as to achieve the required density. In deep trenches defined as those requiring sheeting, the Contractor may submit to the Engineer, for approval, an alternate backfill method (i.e. jetting, deeper deposited layers not exceeding twenty-four (24) inches, etc.) for depositing and compacting the backfill from two (2) feet above the top of the sewer conduit to a plane five (5) feet below final surface elevation. However, approval of any alternate backfill method shall not relieve the Contractor from obtaining a minimum of ninety-five (95) percent of Standard Proctor Maximum Dry Density. Should the Engineer determine that the specified density is not being obtained, the area must be re-excavated and backfilled at the Contractor's own cost until the required compaction density is achieved.

(C) Delete from **Subsection 4.06.3**, the seventh paragraph in its entirety:
Substitute the following:

Backfill shall proceed simultaneously with the withdrawal of sheeting but at no time shall the withdrawal of sheeting exceed a height of six (6) inches above the deposited backfill. Withdrawal of sheeting below levels previously backfilled and compacted is prohibited.

(13) Refer to **Section 5.01 - Reinforced Concrete Sewers**, **Subsection 5.01.4 - Precast Reinforced Concrete Sewer**, Paragraph (C) - Details, second paragraph, first line, Page V-4:
Change the words "C789 or C850 (as required)", to "C1433":

(14) Refer to **Section 5.05C - Reconstruction Of Existing Sewers Using D.E.P. Approved Cured-In-Place-Pipe (CIPP) Lining Method**, **Subsection 5.05C.6 - Separate Payment**, third paragraph, second line, Page V-49
Change the word, "nine", to "eleven":

(15) Refer to **Section 5.11 - Outfall Structures**, **Subsection 5.11.2 - Materials**, Page V-95:
Delete from **Subsection 5.11.2**, paragraph (A) in its entirety:
Substitute the following:

(A) Concrete used for outfall structure (including headwalls, reinforced concrete sewer outfalls, cradles and encasements, chambers, manholes and catch basins) shall comply with the requirements of **General Specification 11 - Concrete, as modified in Section 2.15**; and, shall contain entrained air of six percent (6%), and a corrosion inhibitor. The corrosion inhibitor shall consist of a calcium nitrite solution, containing 30 ±2% calcium nitrite solids by weight and having a specific gravity of 1.27 ±0.02. The corrosion inhibitor when used in the manufacturing process shall not produce a significant amount of chloride ions in the final product (less than 1,000-ppm). The ph shall be greater than 8. The admixture shall not contain chemicals that produce a condition injurious to the quality and durability of the concrete or reinforcing steel. Calcium nitrite, which acts as an accelerator, may be

used in conjunction with compatible retarding admixtures to control setting time and workability of the concrete, consult the manufacturer of the product. The corrosion inhibitor must be added to the mix immediately after air entraining and retarding admixtures have been introduced into the batch. Acceptance of calcium nitrite based corrosion inhibitor shall be based upon it being listed in the most current New York State Department of Transportation's "Approved List Of Calcium Nitrite Based Corrosion Inhibitors".

(16)**Refer** to **Section 5.18A - Sewer Cleaning**, **Subsection 5.18A.3 - Disposal**, Page V-124:
Delete from **Subsection 5.18A.3**, the first paragraph in its entirety:
Substitute the following:

All material removed from the sewers and sewer portions through the manholes under this contract shall become the property of the Contractor and shall be properly disposed of away from the site, at the Contractor's expense.

(17)**Refer** to **Section 5.23 - Decking**, **Subsection 5.23.1 - Description**, Page V-161:
Delete from **Subsection 5.23.1**, the third paragraph in its entirety:
Substitute the following:

Steel plates that are resting on pavement, that are not part of a decking system, and are used to temporarily span trenches and excavations for vehicular traffic and for pedestrian crossings and walkways shall not be included for payment under this decking section. The cost of all labor, materials, equipment, insurance and incidentals necessary to furnish, place, anchor and ramp these temporary steel plates, when and where directed, in order to comply with the requirements of the NYCDOT Office of Construction Mitigation and Coordination (OCMC) traffic stipulations, the directions of the Engineer, and the Contractor's construction operations shall be deemed included in the prices bid for all contract items of work.

(18)**Refer** to **Section 5.23 - Decking**, **Subsection 5.23.4 - Design Criteria**, Page V-162:
Add the following to **Subsection 5.23.4**:

(C) The Contractor may substitute skid resistant steel plates (Non-Skid Textured Plates) for timber mats, subject to approval in accordance with **Subsection 4.05.5**. These steel plates shall be placed flush with the existing roadway and shall be installed in compliance with the requirements of **Subsection 4.05.6(G)**.

(19)**Refer** to **Subsection 5.32.4 - Specific Pavement Restoration Provisions**, Page V-185:
Add the following to **Subsection 5.32.4**:

(E) Specific Pavement Restoration Provisions:

(1) Within the limits of the highway and parks rehabilitation the restoration shall be accomplished and paid for in accordance with Construction Plans, Details and Specifications for Highway Project ID. P-USTA1.

(20)**Refer** to **Section 5.36 - Additional Earth Excavation Including Test Pits**, **Subsection 5.36.4 - Price To Cover**, Paragraph (3), fifth line, Page V-195:
Change 16", to 16'.

(21)**Refer** to **Section 5.43 - Construction Report**, **Subsection 5.43.1 - Intent**, Page V-201:

(A) Add the following to the end of **Subsection 5.43.3(D)**:

"Movements which shall be considered include, but are not limited to, vibration-related settlements, differential settlements, settlements from dewatering, and building movement and/or rotation due to excavation or construction-related work."

(B) **Change** in **Subsection 5.43.3(F)** the words, "of construction.", to the following:

"of construction, as well as means and methods the Contractor, at the Contractor's own expense, will employ should any limits be exceeded."

(C) **Add** the following new paragraphs after **paragraph (G) of Subsection 5.43.3**:

"(H)A geotechnical data summary including assumed values for the physical and strength characteristics of the soils shown on the Record(s) of Borings, developed from, but not limited to available soil and/or rock descriptions, blow counts, and available geotechnical laboratory testing. Such physical and strength characteristics include, but are not limited to, a soil's unit weight, friction angle, cohesion, consolidation properties, and permeability/drainage properties.

(I) Engineering computations to substantiate any values stated, recommended, or defined in (C), (D) and (E), using the appropriate data from (G) and (H)."

(22) **Refer** to **Section 5.43A - Monitoring And Post-Construction Report**, **Subsection 5.43A.3 - Submissions**, **paragraph (A) - Monitoring Settlement**, Page V-203:
Delete from fifth paragraph of **paragraph (A)**, the first sentence in their entirety:
Substitute the following:

"Should the limit of horizontal and/or vertical movement, as set forth in the Preconstruction Report, of any building and/or structure be exceeded, the Contractor shall immediately and concurrently notify the Engineer and, at the Contractor's own expense, follow the steps included in the Preconstruction Report outlined in **Subsection 5.43.3(F)** to rectify the situation and prevent any further settlement of such building and/or structure."

(23) **Refer** to **Section 5.43A - Monitoring And Post-Construction Report**, **Subsection 5.43A.3 - Submissions**, **paragraph (A) - Monitoring Settlement**, Page V-203:
Add the following:

"Settlement points shall be installed at all buildings adjacent to proposed mini-pile installation work. A minimum of two (2) settlement points shall be established at each building."

(24) **Refer** to **Section 5.43A - Monitoring And Post-Construction Report**, **Subsection 5.43A.3 - Submissions**, **paragraph (B) - Vibration Monitoring**, Page V-203:
Add the following:

"Vibrations at the buildings shall be monitored during the installation of piles that are between twenty (20) feet and fifty (50) feet from the buildings."

D. AMENDMENTS TO THE STANDARD WATER MAIN SPECIFICATIONS

(1) **Refer** to **Subsection 1.06.3 - Hours Of Work**, Page I-4:
Add the following to **Subsection 1.06.3**:

(A) HOLIDAY CONSTRUCTION EMBARGO - A special Holiday Construction Embargo shall be in effect on the Friday of the week preceding Thanksgiving Day week from 6:00 AM to 11:59 PM and again from the Monday of Thanksgiving Day week from 6:00 AM through January 2, at 11:59 PM. Roadway and sidewalk construction activities will be restricted during the embargo period on the streets listed below*.

Any permits issued prior to the date of this notice, for work during this embargo period on the streets listed below which do not already have the permit stipulation "410" are hereby suspended for the period noted above. All permittees must comply with this embargo unless a special waiver is granted by OCMC. Waiver requests must be filed at least thirteen (13) days before Thanksgiving Day, in the Permit Office by filing a "Request for Roadway/Sidewalk Permits During Embargo Periods" and submitting supporting documentation. Waiver requests should only be submitted for critical reasons for a specific project. If a waiver is granted, the applicant will be notified so they can apply for the approved permits. Waivers **are not** required for ongoing Building Construction Activity Permits which already include the "410" permit stipulation. Waiver request forms may be obtained at any Permit Office or on the Department of Transportation's website at:

http://www.nyc.gov/html/dot/downloads/pdf/holidayembapp.pdf

Prior to this embargo period all necessary measures must be taken so that all roadways and sidewalks are in proper condition to allow for the expeditious and safe movement of vehicular, bicycle and pedestrian traffic. Tool carts, cable reels, containers, and material stored on roadways must be removed during the embargo period.

The opening of utility access covers is prohibited on any of the streets noted below between the hours of 6:00 AM and midnight unless the utility or contractor files for an Emergency Authorization Number as required by section 2-07 of the Department of Transportation's Highway Rules. The planned opening of utility access covers may occur during the hours of 12:01 AM and 5:59 AM where no authorization number is required.

Temporary restoration of the streets and sidewalks and removal thereof, if required for the Holiday Embargo period, will be paid for under the appropriate scheduled items.

No extension of time due to the shutdown period will be granted to the Contractor for completion of the work.

* **Please note that this embargo only applies to NYCDOT construction permits. List of street and maps of the affected locations are available by borough on the Department of Transportation's website at: http://www.nyc.gov/html/dot/html/motorist/trafalrt.shtml**

(2) **Refer** to Standard Water Main Specifications (August 1, 2009), **Subsection 1.06.29 - Contractor To Provide For Traffic**, Page I-15:
Add the following to **Subsection 1.06.29**:

See amended Standard Sewer Specifications (August 1, 2009) **Subsection 1.06.29 - Contractor To Provide For Traffic** of this addendum.

(3) **Refer** to **Section 1.08 - Miscellaneous Provisions**, Page I-19:
Delete Subsection 1.08.2 - Vendors in its entirety:
Substitute the following new **Subsection 1.08.2**:

1.08.2 VENDORS

Prior to starting work, the Contractor shall submit in writing to the Engineer the names of all vendors and manufacturers the Contractor intends to use. Unless otherwise specified in the contract documents or a written exception is granted by NYCDDC, the Contractor shall submit only one (1) vendor or manufacturer for each product that is to be incorporated in the contract. The use of multiple vendors or manufacturers to supply the same product will be prohibited, unless otherwise specified in the contract documents or a written exception is granted by NYCDDC. If the vendor or manufacturer is not approved, the Contractor will be notified to either submit another vendor or manufacturer, or have their proposed vendor or manufacturer submit a request for approval from NYCDDC. The Contractor will be prohibited from using the vendor or manufacturer until approval of the vendor or manufacturer has been acquired from NYCDDC.

(4) **Refer** to **Section 1.08 - Miscellaneous Provisions**, Page I-20:
Add the following new **Subsection 1.08.7**:

1.08.7 SUBMITTAL OF SCHEDULE LOG

The Contractor's attention is directed to **Article 9 - Progress Schedule** of the Contract. The Contractor shall submit along with the proposed progress schedule the following: A schedule log in Excel Format (tied to the proposed progress schedule) indicating a description of and the schedule submission dates for all required submittals, shop drawings, approval requests, design mixes, reports, samples, etc., as required by the specifications and the terms of the contract.

(5) **Refer** to **Section 2.15 - Concrete, Subsection 2.15.3 - Modifications**, Page II-11:
Delete from **Subsection 2.15.3, Reference Number D 3.2.1** together with its paragraphs in their entirety:
Substitute the following:

D 3.2.1 DELETE 3.2.1 to 3.2.9 of GS11 and SUBSTITUTE the following:

All concrete mix designs shall be subject to approval by DDC's Quality Assurance and Construction Safety (QACS) Bureau and in accordance with their "MIX DESIGN, LABORATORY AND PLANT APPROVAL PROTOCOL". Copies of this protocol may be obtained at the preconstruction meeting or from the Engineer. Before the Contractor begins to manufacture concrete, the Contractor shall secure DDC's QACS approval of the mix design the Contractor proposes to use.

The Contractor shall submit for this purpose a statement, in writing, of the sources of all ingredient materials, the type and brand of the cement and the number of pounds of each of the materials in a saturated surface-dry condition making up one (1) cubic yard of concrete. The range of water-cement ratios within which the concrete will be manufactured and the method of mixing to be employed shall also be stated. The mix design submittal shall include gradation of aggregates, specific gravities of ingredients, unit weight, mix proportion for each batch (a minimum of four (4) batches except in case of precast plants where one specific mix may be proposed), compressive strength test results for each mix at 7-days, 28-days (high-early strength mixes may require 6-hours, 24-hours, 3-days and shrinkage test as per the requirements), and graphical representation of strength vs. W/C projected in hours/days.

The Contractor may submit for approval concrete mixes that (within one (1) year of the contract) have been previously approved and used on other jobs with any Bureau of the Department of Environmental Protection or the Department of Design and Construction. Such submittals shall contain evidence that the concrete mix was approved within one (1) year of this contract and shall show that the concrete will be produced at the same mix

plant, that the cement and admixtures are the same type (though not necessarily the same brand), that the water/cement ratio is the same and that adjustments have been made in the mix for air content, specific gravity and gradation of the aggregates.

If the Contractor elects to submit a concrete mix that was not previously approved, the Contractor shall submit the new concrete mix in accordance with Chapters 2 and 3 of General Specification 11 as modified herein.

(6) **Refer** to **Section 2.15 - Concrete, Subsection 2.15.3 - Modifications**, Page II-13:
Add to **Subsection 2.15.3**, before **Reference Number D 8.2** the following:

D 7.3.3 ADD the following to Subsection 7.3.3 of GS11:

Each Portland cement concrete batching plant shall be subject to approval by DDC's Quality Assurance and Construction Safety (QACS) Bureau and in accordance with their "MIX DESIGN, LABORATORY AND PLANT APPROVAL PROTOCOL". Copies of this protocol may be obtained at the preconstruction meeting or from the Engineer. The minimum requirement for approval is that the proposed Portland cement concrete batching plant must be on the New York State Department of Transportation (NYSDOT) approved list for the current construction season.

The minimum requirement for approval of a precast concrete plant is that the proposed plant must be on the NYSDOT approved list. A waiver for this requirement may be granted by the DDC's Quality Assurance and Construction Safety (QACS) Director for special products that no NYSDOT approved plant is capable of producing.

Each Portland cement concrete batching plant shall also be subject to auditing and approval of the DDC's Director of Quality Assurance and Construction Safety (QACS). The Director of QACS may at any time discontinue the use of any previously approved equipment if nonconformance with the specifications results during the progress of the work. When the Director of QACS discontinues the use of the plant, production will not be acceptable for Department work until corrective measures satisfactory to the Director are carried out.

(7) **Refer** to **Section 2.15 - Concrete, Subsection 2.15.3 - Modifications**, Page II-14:
Delete from **Subsection 2.15.3**, **Reference Number D 16.3** together with its paragraphs in their entirety:
Substitute the following:

D 16.3 Testing Service - ADD the following:

The Contractor shall retain the services of an independent testing laboratory to provide for the services outlined in 16.3.1.4 to 16.3.1.11 of GS11, with the exception of those tests specified herein to be performed by the Engineer and the City Retained Laboratory.

All laboratories shall be subject to approval by DDC's Quality Assurance and Construction Safety (QACS) Bureau and in accordance with their "MIX DESIGN, LABORATORY AND PLANT APPROVAL PROTOCOL". Copies of this protocol may be obtained at the pre-construction meeting or from the Engineer. The minimum requirement for approval is that the laboratory must have the current AMRL/AASHTO R-18 accreditation in the category of service proposed and must be currently licensed by the NYC Department of Buildings (DOB).

(8) **Refer** to **Section 2.15 - Concrete, Subsection 2.15.3 - Modifications**, Page II-14:

Delete from **Subsection 2.15.3, Reference Number D 16.8** together with its paragraphs in their entirety:
Substitute the following:

D 16.8 Responsibilities and Duties of Contractor - ADD the following:

The Contractor may, if the Contractor so desires, take cylinders corresponding to those taken by the Engineer for the City Retained Laboratory. However, determination of payment will be based solely on the cylinders taken by the Engineer for the City Retained Laboratory.

CONCRETE TEST CYLINDERS

The Contractor will be responsible for safe delivery of concrete cylinders to the Department of Design and Construction Laboratory, within two (2) days after molding, where they will be properly stored and cured until the date of test, and tested by others, upon removal from the curing room. The Department of Design and Construction testing laboratory will provide the services for the curing and breaking of the test cylinders.

The Contractor shall provide empty cylinder molds and facilities for the proper care of these cylinders while on the site, and shall safeguard them against injury and protect them from the elements.

The Engineer will be responsible for the preparation, documentation and labeling of the cylinders and for notifying the Contractor, at least twenty-four (24) hours in advance, when a shipment of cylinders is ready for delivery, so that cylinders can be tested for the standard twenty-eight (28) day and seven (7) day tests. Cylinders are to be delivered by the Contractor to a designated area near 30-30 Thomson Avenue, Long Island City, New York, or where otherwise directed within the City of New York.

The Contractor shall make arrangements to protect all cylinders from damage during loading, transport to, and unloading at a Department of Design and Construction designated testing laboratory, and shall obtain a receipt for delivered cylinders, which shall be submitted to the Engineer.

(9) **Refer** to **Section 4.06 - Backfilling, Subsection 4.06.3 - Method Of Depositing All Backfill**, Page IV-18:

(A) **Add** the following paragraph to beginning of **Subsection 4.06.3**:

At the preconstruction meeting, the Contractor shall submit for approval a full description of the Contractor's proposed methods to be used for all backfilling operations including, but not limited to, equipment, backfill material, depth of compaction layers, and trench locations where each is to be employed. In the field, the Contractor shall be required to demonstrate that the Contractor's methods of backfilling and compaction shall obtain a minimum of ninety-five (95) percent of Standard Proctor Maximum Dry Density.

(B) **Delete** from **Subsection 4.06.3**, the fourth paragraph in its entirety:
Substitute the following:

Unless otherwise approved in writing by the Engineer, backfilling of the remainder of the trenches and excavations from a point not less than twelve (12) inches above the top of the barrel of the water main pipe to the underside of the pavement shall be progressively deposited in uniform and successive horizontal layers not exceeding twelve (12) inches in depth for the entire width of the trench or excavation and each successive layer shall be solidly compacted by mechanical tamping or other approved means so as to achieve the required density. In deep trenches defined as those requiring sheeting, the Contractor may submit to the Engineer, for approval, an alternate backfill method (i.e.

jetting, deeper deposited layers not exceeding twenty-four (24) inches, etc.) for depositing and compacting the backfill from twelve (12) inches above the top of the barrel of the water main pipe to a plane five (5) feet below final surface elevation. However, approval of any alternate backfill method shall not relieve the Contractor from obtaining a minimum of ninety-five (95) percent of Standard Proctor Maximum Dry Density. Should the Engineer determine that the specified density is not being obtained, the area must be re-excavated and backfilled at the Contractor's own cost until the required compaction density is achieved.

(C) Delete from **Subsection 4.06.3**, the seventh paragraph in its entirety:
Substitute the following:

Backfill shall proceed simultaneously with the withdrawal of sheeting but at no time shall the withdrawal of sheeting exceed a height of six (6) inches above the deposited backfill. Withdrawal of sheeting below levels previously backfilled and compacted is prohibited.

(10) Refer to **Section 5.02 - Laying Ductile Iron Pipe And Fittings, Subsection 5.02.3(F) - Bedding And Foundation Of Pipes**, Page V-8:
Delete from **Subsection 5.02.3(F)**, Paragraph (5) - Pier And Plate, in its entirety:
Substitute the following new Paragraph (5):

(5) Shallow Cover: Where mains 24-inches and smaller are laid with covers of 2'-0" or less, the Contractor shall provide protection in accordance with **Standard Drawing No. 42063-Y** or as directed by the Engineer.

Where mains 24-inches and smaller are laid with covers between 2'-6" and 2'-0", the Contractor shall provide steel plates only over the main with dimensions as shown on **Standard Drawing No. 46464-Z** or as directed by the Engineer.

Where mains 30-inches and larger are laid with covers of 2'-6" or less, the Contractor shall provide protection in accordance with **Standard Drawing No. 46464-Z** or as directed by the Engineer.

Covers over the new mains shall not be less than 1'-6".

(11) Refer to **Section 5.02 - Laying Ductile Iron Pipe And Fittings, Subsection 5.02.3 - Construction Methods, Paragraph (M) - Laying Temporary Connections**, Page V-12:
Delete Paragraph (M), in its entirety:
Substitute the following:

(M) LAYING TEMPORARY CONNECTIONS AND INSTALLING TEMPORARY CAP ASSEMBLIES AND/OR BULKHEADS

(1) When new water mains are laid and it becomes necessary to provide a temporary connection between the existing main and new mains laid under this contract (regardless of whether the new and existing water mains are in the same trench or are offset in two different trenches), the Contractor shall, if ordered, provide all labor, equipment and facilities for laying, maintaining and removing when directed, temporary connections and appurtenances. If City forces do laying of temporary connections, the Contractor shall make all required equipment and facilities available to them. No payment will be made for providing temporary house services which may be required when making a temporary connection between the existing and new main.

(2) (a) Temporary cap assemblies on distribution water mains (20" and less in diameter) shall consist of a 2-foot long spigot/spigot ductile iron pipe with a mechanical joint cap restrained to the pipe with a "wedge-type" retainer gland and a minimum 2-inch tap on the pipe section.

(b) Temporary cap assemblies on distribution water mains (20" and less in diameter) shall be restrained and braced in a manner sufficient to support system working pressures, and thrust forces.

(c) The 2-inch tap required as part of the temporary cap assembly is to be utilized to allow air to escape while filling the main in addition to allow for proper flushing of the main.

(d) Restraint and bracing as well as temporary cap assemblies/bulkheads for water mains greater than 20" in diameter shall be submitted for approval by the Engineer prior to being utilized.

(12)Refer to **Section 5.02 - Laying Ductile Iron Pipe And Fittings**, **Subsection 5.02.5 - Price To Cover**, **Paragraph (10)**, Page V-16:
Delete Paragraph (10), in its entirety:
Substitute the following:

(10)(a) No payment will be made to the Contractor for furnishing, delivering, installing and removing temporary caps for water mains as ordered by the Engineer. Payment shall be deemed included in the prices bid for all items of the contract.

(b) Payment for temporary valves (i.e. construction valves) and its associated fittings ordered by the Engineer during the course of the work to be installed will be paid for at the same rates as for valves and fittings permanently installed.

(c) If ordered by the Engineer, removal of valves (i.e. construction valves) and its associated fittings, including their transfer and disposal shall be deemed included in the prices bid for all items of the contract. No separate or additional payment will be made for this work.

(d) Payment For Temporary Connections: When new mains are laid and it becomes necessary to provide a temporary connection between the existing and new mains the following method of payment shall apply – The Contractor shall be paid once for furnishing and delivering pipes and fittings used in temporary connections. The Contractor shall also be paid for laying the temporary pipe connection and fitting using the appropriate pipe laying item for each time that the Contractor is directed to use them throughout the project as directed by the Engineer.

(13)Refer to **Subsection 5.04.4 - Furnishing, Delivering And Installing Steel Tee**, Paragraph (5), Item Numbers list, Page V-23:
Delete Item No. "60.23ST20T48", together with Description "FURNISHING, DELIVERING AND INSTALLING 48-INCH X 20-INCH STEEL TEE", and Pay Unit "EACH":

(14)Refer to **Section 5.05 - Furnishing And Delivering Gate Valves**, Page V-35:

(A) Delete from **Subsection 5.05.1 - Description**, the first paragraph in its entirety:
Substitute the following:

This specification describes furnishing and delivering of double disc 3-inch to 20-inch gate valves, resilient seated 3-inch to 20-inch gate valves and resilient seated 3-inch to 12-inch tapping valves.

Unless otherwise specified in the contract documents or ordered in writing by the Engineer, only resilient seated gate valves and tapping valves shall be furnished and delivered by the Contractor on the contract.

(B) Delete from **Subsection 5.05.2 - Materials**, second paragraph, first line, the words, "6-inch hydrant":
Substitute the following words, "3-inch to 20-inch":

(15)Refer to **Section 5.06 - Setting Gate Valves**, Page V-38:

(A) Delete from **Subsection 5.06.1 - Description**, the first paragraph in its entirety:
Substitute the following:

This specification describes the installation of double disc 3-inch to 20-inch gate valves, resilient seated 3-inch to 20-inch gate valves and resilient seated 3-inch to 12-inch tapping valves. It also describes the installing of manhole frames (skirts and heads) and covers.

Unless otherwise specified in the contract documents or ordered in writing by the Engineer, only resilient seated gate valves and tapping valves shall be installed by the Contractor on the contract.

(B) Delete from **Subsection 5.06.2 - Materials**, second paragraph, first line, the words, "6-inch hydrant":
Substitute the following words, "3-inch to 20-inch":

(16)Refer to **Section 5.23 - Decking, Subsection 5.23.1 - Description**, Page V-73:
Delete from **Subsection 5.23.1**, the third paragraph in its entirety:
Substitute the following:

Steel plates that are resting on pavement, that are not part of a decking system, and are used to temporarily span trenches and excavations for vehicular traffic and for pedestrian crossings and walkways shall not be included for payment under this decking section. The cost of all labor, materials, equipment, insurance and incidentals necessary to furnish, place, anchor and ramp these temporary steel plates, when and where directed, in order to comply with the requirements of the NYCDOT Office of Construction Mitigation and Coordination (OCMC) traffic stipulations, the directions of the Engineer, and the Contractor's construction operations shall be deemed included in the prices bid for all contract items of work.

(17)Refer to **Section 5.23 - Decking, Subsection 5.23.4 - Design Criteria**, Page V-74:
Add the following to **Subsection 5.23.4**:

(C) The Contractor may substitute skid resistant steel plates (Non Skid Textured Plates) for timber mats, subject to approval in accordance with **Subsection 4.05.5**. These steel plates shall be placed flush with the existing roadway and shall be installed in compliance with the requirements of **Subsection 4.05.6(G)**.

(18)Refer to Standard Water Main Specifications (August 1, 2009), **Section 5.32 - Final Restoration Of Pavements**, Page V-99:
Add the following to **Subsection 5.32.4 - Specific Pavement Restoration Provisions**:

See amended Standard Sewer Specifications (August 1, 2009) **Subsection 5.32.4 - Specific Pavement Restoration Provisions** of this addendum.

(19)Refer to **Section 5.36 - Additional Earth Excavation Including Test Pits, Subsection 5.36.4 - Price To Cover**, Paragraph (3), fifth line, Page V-114:
Change 16", to 16'.

END OF ADDENDUM NO. 2
This Addendum consists of nineteen (19) pages.

NO TEXT ON THIS PAGE

ATTACH TO CONTRACT DOCUMENTS

THE CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
INFRASTRUCTURE DIVISION
BUREAU OF DESIGN

PROJECT ID: P-USTA1

USTA UN AVENUE CONNECTOR ROAD RELOCATION

MERIDIAN ROAD - FROM EXISTING CONNECTOR ROAD TO QUEENS MUSEUM OF ART
NEW CONNECTOR ROAD - FROM MERIDIAN ROAD TO UNITED NATIONS AVENUE N

INCLUDING MERIDIAN ROAD WIDENING, NEW CONNECTOR ROAD, SEWER, WATER MAIN, CATCH BASIN, ELECTRICAL, TELECOMMUNICATION, STREET LIGHTING, AND LANDSCAPE WORK

Together With All Work Incidental Thereto
BOROUGH OF QUEENS
CITY OF NEW YORK

ADDENDUM NO. 3

DATED: August 12, 2013

THIS ADDENDUM IS HEREBY MADE A PART OF THE CONTRACT DOCUMENTS

Specifications contained in this Addendum No. 3 cover landscaping work for this project at locations shown on the Contract Drawings and as directed by the Engineer.

Items listed in the Bid Schedule with the prefix "PK-" (e.g. PK-26, PK-34, PK-454A, etc.) are modified or new versions of the Department of the Parks and Recreation specifications and shall comply with the requirements of the corresponding alphanumeric sections incorporated herein this Addendum No. 3. However, all references herein to the "Landscape Architect", "Project Arborist", "Resident Engineer", "Director of the Arboriculture and Horticulture", or any of the officials of the Department of the Parks and Recreation, shall be deemed to mean the "Engineer".

Where any reference is made on the Contract Drawings or these specifications to NYCDPR's Standard Drawings and Specifications (e.g. Section C), the Contractor shall be required to obtain for their use such reference documents from the New York City Department of Parks and Recreation (NYCDPR). The NYCDPR Specifications described herein neither imply the DPR's involvement in any testing and approval of materials, nor in the supervision of construction.

SPECIAL SPECIFICATIONS

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ITEM NO.	ITEM
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PK-22D	ROOT AERATION MATTING
PK-22E	TEMPORARY SILT FENCE
PK-22F	HAND AND SSAT EXCAVATION
PK-22G	MECHANICAL ROOT PRUNING
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PK-22K	TREE GROWTH REGULATOR (TREE PROTECTION)
PK-22L	CONSTRUCTION OVERSIGHT BY CONTRACT ARBORIST
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PK-23C	MOBILIZE 120" SPADE
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PK-23E	TRANSPLANT WITH 102" SPADE
PK-23F	TRANSPLANT WITH 120" SPADE
PK-23G	TREE GROWTH REGULATOR (TRANSPLANTING)
PK-23H	SOIL CARE PROGRAM (TRANSPLANTING)
PK-23J	SUPPLEMENTAL WATER / TEMPORARY IRRIGATION (TRANSPLANTING)
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PK-26A	TREE REMOVAL (6" TO UNDER 12" DBH)
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PK-454A	COMMERCIAL FERTILIZER LOW PHOSPHOROUS (SLOW RELEASE)
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PK-465	SOD WITH COMPOST
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PK-476B	PLANT MATERIAL – ACER RUBRUM (2" TO 2.5" CAL.)
PK-476C	PLANT MATERIAL – AMELANCHIER CANADENSIS (8' TO 10' HT.)
PK-476D	PLANT MATERIAL – AMELANCHIER LAEVIS (8' TO 10' HT.)
PK-476E	PLANT MATERIAL – CARPINUS CAROLINIANA (2.5" TO 3" CAL.)
PK-476F	PLANT MATERIAL – CELTIS OCCIDENTALIS (2.5" TO 3" CAL.)
PK-476G	PLANT MATERIAL – CERCIS CANADENSIS (2.5" TO 3" CAL.)
PK-476H	PLANT MATERIAL – CERCIS CANADENSIS (8' TO 10' HT.)
PK-476J	PLANT MATERIAL – CHAMAECYPARIS THYOIDES (6' TO 8'HT.)
PK-476K	PLANT MATERIAL – CORNUS MAS (2.5" TO 3" CAL.)
PK-476L	PLANT MATERIAL – CORNUS MAS (8' TO 10' HT.)
PK-476M	PLANT MATERIAL – GLEDITSIA TRIACANTHOS (3" TO 3.5" CAL.)
PK-476N	PLANT MATERIAL – GLEDITSIA TRIACANTHOS (2.5" TO 3" CAL.)
PK-476P	PLANT MATERIAL – ILEX OPACA (6' TO 8' HT.)
PK-476Q	PLANT MATERIAL – JUNIPERUS VIRGINIANA (6' TO 8' HT.)
PK-476R	PLANT MATERIAL – LIQUIDAMBAR STYRACIFLUA (2.5" TO 3" CAL.)
PK-476S	PLANT MATERIAL – LIRIODENDRON TULIPIFERA (2.5" TO 3" CAL.)
PK-476T	PLANT MATERIAL – NYSSA SYLVATICA (2" TO 2.5" CAL.)
PK-476V	PLANT MATERIAL – PICEA ABIES (8' TO 10' HT.)
PK-476W	PLANT MATERIAL – PICEA OMORIKA (8' TO 10' HT.)
PK-476X	PLANT MATERIAL – PINUS STROBUS (8' TO 10' HT.)
PK-476Y	PLANT MATERIAL – PLATANUS X ACERIFOLIA (2.5" TO 3" CAL.)
PK-476Z	PLANT MATERIAL – QUERCUS BICOLOR (2.5" TO 3" CAL.)
PK-476AA	PLANT MATERIAL – QUERCUS PALUSTRIS (2.5" TO 3" CAL.)
PK-476BB	PLANT MATERIAL – QUERCUS PHELLOS (2.5" TO 3" CAL.)
PK-476CC	PLANT MATERIAL – QUERCUS RUBRA (2.5" TO 3" CAL.)
PK-47DD	PLANT MATERIAL – TAXODIUM DISTICHUM (2.5" TO 3" CAL.)
PK-476EE	PLANT MATERIAL – THUJA OCCIDENTALIS (6' TO 8' HT.)
PK-476FF	PLANT MATERIAL – TILIA AMERICANA (2.5" TO 3" CAL.)

SECTION PK-18 **RANGE FENCE 4'-0" HEIGHT**

WORK: Under this Section, the Contractor shall furnish and install a **RANGE FENCE 4'-0" HEIGHT** in accordance with the plans, specifications, and directions of the Engineer.

MATERIALS:

Fabric: Shall be four foot (4') wide rolls of fuse bonded PVC powder coated two inch (horizontal) by four inch (vertical) (2" x 4") 12 gauge galvanized wire mesh, (14 gauge core, 12 gauge after powdercoating). Color to be Black.

Line Posts: Line posts shall be 'T' shape, PVC powder-coated, 13 gauge, rust proofed steel with stabilizing anchor plate, six (6'-0") foot height. Color to be Black.

Tie Wire: Shall be aluminum or steel ties.

INSTALLATION: See Section PK-476 "Plant Material" for installation requirements at new trees in lawn areas.

The steel stakes shall be driven into the ground to a depth of two feet (2'). Fabric shall be secured to line stakes with three-sixteenth inch (3/16") aluminum or steel tie wire spaced eighteen inches (18") apart on posts. Line post spacing shall not exceed eight feet (8') on center. The Contractor shall maintain the range fence during the life of this contract and shall repair or replace all members that are disturbed, damaged, destroyed, or vandalized at no extra cost to the City.

MEASUREMENT AND PAYMENT: The quantity of **RANGE FENCE 4'-0" HEIGHT** to be paid for under this Item shall be the number of **LINEAR FEET** furnished and installed complete, measured in final position in accordance with the plans and specifications, to the satisfaction of the Engineer.

The price bid shall be a unit price per **LINEAR FOOT** of **RANGE FENCE 4'-0" HEIGHT** and shall include the cost of all labor, materials, equipment, insurance, and incidentals necessary to complete and maintain the work, in accordance with the plans and specifications, to the satisfaction of the Engineer. Payment for work performed under this Item shall be made as follows:

50% - upon initial installation
50% - at the final inspection, having maintained the fencing for the life of the contract, to the satisfaction of the Engineer.

The installed Range Fence 4'-0" Height shall become the property of the New York City Parks Department upon completion of the life of the Contract, and turned over to the Borough representative.

Payment will be made under:

Item No.	Item	Pay Unit
PK-18	RANGE FENCE 4'-0" HEIGHT	LINEAR FOOT

SECTION PK-22 TREE PROTECTION AND PRESERVATION

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes the protection and stress reduction of existing trees and vegetation that interfere with, or are to be affected by, execution of the Work, whether temporary or permanent. Work is to be coordinated with Site & Landscape Improvements, Tree Preservation and Transplant Plans.

B. The following specifications apply to work of the Contract Arborist related to Protection and Stress Reduction Measures and coordination and oversight of the Tree Protection and Preservation Program by the Project Arborist. This work includes but is not limited to the following:

1. Coordination of Temporary Tree and Plant Protection
2. Crown Pruning.
3. Root Pruning
4. Temporary Site and Tree protection fencing and temporary sign installation
5. Root Protection Matting for temporary construction access in TPAs
6. Root Aeration Matting for permanent grade fills
7. Shredded Bark Mulch
8. Liquid subsurface fertilization
9. Tree Growth Regulator (Paclobutrazol)
10. Soil Nutrient Testing
11. Root Protection Matting (RPM) and Root Aeration Matting (RAM)
12. Temporary Limb Guying or Clearance Pruning for construction access
13. Supplemental Watering / Temporary Irrigation
14. Monitoring and Treatment of Tree Health
15. Supersonic Air Tool (SSAT) and Hand Excavation within the Critical Root Zones (CRZs)

1.2 PERMITS

A. All work on or adjacent to trees under this contract, including the installation of tree protection measures, requires a permit from the New York City Department of Parks and Recreation (DPR) Queens Forestry office. The General Contractor (GC) is responsible for obtaining this permit. The GC can contact the DPR Capital Arboriculture & Horticulture office by emailing "capital.arb-hort@parks.nyc.gov" for information on obtaining this permit.

1.3 DEFINITIONS

A. Certified Arborist: Credential of an individual arborist issued and administered by the International Society of Arboriculture. This credential must be current and

valid to qualify to use the copyrighted designation of "Certified Arborist". Refer to "www.isa-arbor.com" for additional information.

B. Project Arborist: Arboricultural firm contracted to provide planning and design services, technical assistance and advice to the Project Client and design team. Duties include but are not limited to the following: site investigation and documentation (design phase inventories, assessments, root investigations, etc.); develop tree preservation plans, methods, details and specifications; and provide final document review and monitoring of the Contract Arborist. Project Arborist is contracted directly to the Project Client or Project Client's representative and acts specifically on behalf of the owner concerning tree related issues. Project Arborist shall have authority over the Contract Arborist and any disputes shall be decided by the Project Arborist and Engineer.

C. Contract Arborist: Arboricultural firm contracted to implement the approved tree preservation plans on site. All crews conducting arboricultural operations on site shall consist of at least one Certified Arborist who directly oversees all work by that crew. Arboricultural operations include, but are not limited to, pruning, tree protection device installation and maintenance (fence, matting, etc.), root pruning, air tool root excavation/exploration (SSAT), soil care activities, soil testing, mulch application, tree inspections, pesticide/chemical applications and tree removal. Special qualifications submittal is required for review and approval below. Contract Arborist will be sub-contracted by the general contractor.

D. Tree Protection Area (TPA): Area indicated on Drawings surrounding individual trees or groups of trees to be protected during construction.

E. Critical Root Zone (CRZ): Area shown on Drawings for all trees within scope of this project with a circle. Estimated area is based upon an industry standard "rule of thumb" of 1.5 feet of radius per inch of diameter at breast height (DBH). CRZ is described as the minimum area of tree roots required to be protected to maintain tree health. Any impacts within the CRZ must be mitigated based on severity up to and including tree removal if the impact is severe.

F. Tree Protection Action Key (TPAK): Matrix provided on Plan sheets for each tree indicating designated protection and stress reduction measures specified in this document.

G. Supersonic Air Tool (SSAT): Hand held tool designed to focus highly compressed air (90-125 psi) provided from a large air compressor (185-375 cfm) at speeds close to 1400 mph at the tip of the tool. Widely used by arboricultural firms and consultants for multiple purposes including but not limited to: root collar investigation, CRZ investigation, root pruning (especially large roots > 1.5" diameter or were existing underground cables or conduits are located), radial mulching and restoration of compacted soils, excavation for utilities within protected CRZs to minimize root damage from constriction.

H. Crown Pruning: Action by the Contract Arborist of pruning specific tree limbs to improve tree health, reduce hazard, and / or provide construction clearance.

I. Root Pruning: Action indicated on Drawings to provide a more suitable cut for protected tree roots to minimize ripped or torn roots during excavations and grading with standard construction equipment. Various methods may be used.

J. Mulching of Trees: Application of a shredded bark mulch product to areas surrounding designated trees. Mulch increases moisture-holding capacity, helps mitigate soil compaction, and increases needed soil organic composition.

K. Soil Amendments: Various product components applied to existing soil environment of protected trees, as indicated on Plan notes.

L. Tree Growth Regulator (*Paclobutrazol*): Products applied to designated trees used to regulate plant growth in such a way as to restrict canopy growth and free stored or produced energy for other uses in the tree. For highly impacted trees, more energy may be made available for fibrous root growth (to combat root loss), thicker darker leaves (allowing for increased photosynthesis, and increased drought tolerance), and pest tolerance (often an issue with construction stressed trees); among other potential benefits.

M. Limits of Disturbance (LOD) (also called Limits of Construction): Specific outer limits of all construction activities for the entire project.

N. DBH (Diameter at Breast Height): Tree trunk diameter measured at 4.5 feet above grade.

O. The Project Client: This contract occurs within the New York City Department of Parks and Recreation (DPR) Property. All references within these specifications to "the Project Client" shall include reference to the DPR Capital Arboriculture & Horticulture (A&H) office, the Director of Capital Arboriculture & Horticulture, Capital Projects Arborist, or their designated representative. NYC DPR A&H shall have authority over the Project Arborist and Contract Arborist. All requirements within these specifications to contact the Project Client or submit for review by the Project Client can be satisfied by emailing "capital.arb-hort@parks.nyc.gov".

1.4 SUBMITTALS

All submittals shall be as per the NYC Department of Transportation's Standard Highway Specifications, General Conditions, Section 1.06.31.

The Contract Arborist shall provide submittals as follows:

A. Product Data: For each type of product indicated.

B. Certification: For each phase, the Contract Arborist shall certify for each tree designated to remain has been protected during construction according to recognized standards and that trees were promptly and properly treated and repaired when damaged.

C. Qualification Data: For Contract Arborist Firm Qualifications, submit firm and individual qualifications to NYC DPR A&H as follows.

1. Submit a minimum of two resumes and detailed qualifications from staff or team individuals assigned to this project as detailed under Quality Assurance below. Due to the complexity of this project, standard arboricultural experience may not qualify.
2. Shall meet and satisfy NYC DPR Asian Longhorn Beetle certification requirements as set in NYC DPR standards and noted subsequent in pruning specification.
3. Provide references for above from a minimum of three commercial, nongovernmental or governmental projects for whom similar tree preservation programs have been successfully implemented. Include the following information:

    a. Project name, size and scope
    b. Number and species of trees involved
    c. Tree preservation budget
    d. Scope of services provided
    e. Name and contact for reference: client, designer, or contractor

D. Pedestrian/Property Protection Plan: Contract Arborist to submit a written plan describing all protective measures proposed to be used to minimize potential impact to pedestrians, parked cars, workers and other public and private property. Protection measures shall be required for all on-site tree care activities including but not limited to Supersonic Air Tool excavation, root pruning, canopy pruning, etc.

E. Maintenance Prescription: Contract Arborist shall submit for care and protection of trees as a result of construction, changes in weather patterns or events, and response in health from individual trees during and after completing the Work.

F. Soil Samples: Submit soil sample for analysis during site work phase of this project. Take the samples during April through October. Take representative soil samples from all areas of protected trees (landscape areas and street tree planting pits). Samples and procedures shall be as required by and submitted for analysis by a soil testing laboratory approved by NYC DPR A&H. Forward reports to Engineer and Project Arborist for review by NYC DPR A&H.

G. Soil Amendments: Contract Arborist shall submit specific fertilizer formulations, application rates and methods for review by Project Arborist. All fertilization and soil amendments shall be in conformance with soil test results.

H. Site Documentation: Submit weekly reports to NYC DPR A&H and Project Arborist containing complete documentation of all tree impacts and tree preservation activities including but not limited to: root pruning, tree protection fencing, excavation within critical root zones, tree fertilization or other treatments, etc. Documentation shall include tree numbers of trees impacted and/or treated. Complete daily photographic record is also required.

I. Existing Conditions: Documentation of existing trees and plantings indicated to remain, which establishes preconstruction conditions that might be misconstrued as damage caused by construction activities.

1. Use sufficiently detailed photographs or videotape.
2. Include plans and notations to indicate specific wounds and damage conditions of each tree or other plants designated to remain.

1.5 QUALITY ASSURANCE

A. On-site Arborist (individual) Qualifications: An arborist certified by the International Society of Arboriculture (ISA) and licensed in the jurisdiction where project is located. All work performed by Contract Arborist including any oversight and documentation work, shall be performed or directly supervised by at least one on-site arborist with these minimum qualifications. All individual and firm qualifications are subject to review by NYC DPR A&H and NYC DPR Queens Forestry. Submissions shall be made to NYC DPR A&H by emailing capital.arb-hort@parks.nyc.gov, for forwarding to Queens Forestry.

B. Contract Arborist Firm Qualifications:

1. Contract Arborist Firm shall comply with the following:
   a. Established business with documented experience of at least five years.
   b. Experience working on a minimum of three commercial, nongovernmental or governmental projects where similar tree preservation programs have been successfully implemented.
   c. Properly licensed and insured to perform arboricultural work in the jurisdiction where the project is located.
2. Provide names of each individual to comply with the following:
   a. Minimum BS degree in forestry, arboriculture, or related field or equivalent experience.
   b. Certification by ISA (Certified Arborist or Board Certified Master Arborist) for a minimum of three years prior to contract's Notice-to-Proceed date.
   c. Resumes should reflect combined 10 years full time experience on similar tree preservation projects.
   d. Provide individual(s) names, certifications, and each anticipated role in this project. "Role(s)" shall be defined as one or more of the following:
      i. Project Manager
      ii. Technical oversight
      iii. Field Arborist / Technician
3. For each staff member, list a minimum of three construction projects and a minimum three years experience.

C. Soil Testing: Testing shall be performed by an approved Testing Agency. Testing Agency Qualifications: An independent, state-operated, or university-operated laboratory; experienced in soil science, soil testing, and plant nutrition; with the experience and capability to conduct the testing indicated; and that specializes in types of tests to be performed.

D. Publications listed herein are part of this work to extent referenced:

1. ANSI A300 Standard Practices for Trees, Shrubs, and Other Woody Plant Maintenance
2. Part 1-2001, Tree Pruning;
3. Part 2-3004, Fertilization;
4. Part 4-2002, Lightning Protection Systems.
5. ANSI Z133.1 - 1994 and most recent updates, Tree Care Operations - Safety Requirements

E. Fertilizer and pesticides will be applied in strict accordance with the manufacturers label instructions and applicable federal, state, and local requirements. Fertilizer, soil conditioners, and pesticide applications must be approved by the owner prior to application. Material Safety Data Sheets (MSDS) will be available for fertilizers and pesticides in the Contract Arborists' possession while on the site.

F. Pre-Construction Meeting: Conduct meeting at the project site prior to commencement of any project related site activities.

1. Contract Arborist, Project Arborist, Project Design Team, NYC DPR A&H and Contractors shall attend.
2. Review methods and procedures related to tree protection and preservation including, but not limited to, the following:
   a. Construction schedule - verify availability of materials, personnel, and equipment needed to make progress and avoid delays.
   b. Enforcement of requirements for tree protection areas
   c. Responsibilities of all parties, including coordination, access and timing requirements
   d. Field quality control

1.6 PROJECT CONDITIONS

A. The following practices are prohibited within all tree protection areas except as specifically indicated herein:

1. Storage or stockpiling of construction materials, chemicals, debris, or excavated materials
2. Parking vehicles, trailers or equipment
3. Foot traffic
4. Erection of sheds or structures
5. Impoundment or discharge of water
6. Excavation or other digging unless otherwise indicated

7. Attachment of signs or other materials to, or wrapping materials around trees or plants unless otherwise indicated

B. Do not direct vehicle or equipment exhaust toward protection zones.

C. Prohibit heat sources, flames, ignition sources, and smoking within or near protection zones and organic mulch.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Temporary Root Protection Matting (RPM): geocomposite material comprised of a tri-planar geonet structure with thermally bonded nonwoven geotextiles on both sides.

1. Material shall be woven tri-planer geotextile to be approved by project arborist.
2. For short duration applications (1-2 pass/1 day or less), solid, weight displacing ground protection mats or 1" thick steel plates may be used in lieu of RPM.
3. Submit shop drawings / cut sheets and material samples for review by Project Arborist and project civil.

B. Temporary Tree Protection Fence

1. Welded Wire Fence: 48" ht, 14 gauge, 4"x2" galvanized fabric with 6' steel T-posts, metal wire clips, tree protection signs.

C. Temporary Wooden Tree Guard

1. See Detail on Contract Drawings.
2. Lumber shall be Yellow Pine, Douglas Fir or Spruce. Nails shall be galvanized. No paint will be required. All work shall be done in a neat and workmanlike manner to the satisfaction of the Engineer.
3. Line Post/Stake: Line post/Stake shall be 'Heavy Vinyl Guard Post', 'U' shaped, 13 gauge, rustproofed steel, three (3'-0") foot height. Color to be Black or Green.

D. Temporary Trunk/Limb Protection Wrap: to provide specific protection to tree trunks when construction activities are expected to be in close proximity.

1. Material shall be 2'x4" posts of yellow pine, spruce, or spruce, galvanized nails, and snow fence of woven wire and slats.Alternative methods and materials may be submitted for review.

E. Permanent Root Aeration Matting (RAM): geocomposite material comprised of a tri-planar geonet structure with thermally bonded nonwoven geotextiles on both sides.

1. Material shall be tri-paner geocomposite geotextile to be approved by project arborist.
2. Submit shop drawings / cut sheets and material samples for review by Project Arborist and project civil.

F. Temporary Silt Fence

1. Posts: Posts shall be wood, steel, or an approved synthetic material, with a minimum length of four (4') feet. Hardwood posts shall have a minimum cross sectional area of 1.25" x 1.25" and steel posts of U, T, L, or C shape shall weigh one (1 lb.) pound per linear foot.
2. Wire Mesh: Wire mesh fencing shall be a minimum of fourteen (14) gauge with a maximum six (6") inch mesh opening.
3. Geotextile: Fibers used in the manufacture of geotextiles, and the threads used in joining geotextiles by sewing, shall consist of long-chain, synthetic polymers, composed of at least 95 percent by weight polyolefins, polyesters, or polyamides. The geotextile and the threads used in sewing geotextiles, shall be resistant to chemical attack, rot, and mildew. The geotextile shall have no tears or defects which adversely alter its physical properties. They shall be formed into a stable network such that the filaments or yarns retain their dimensional stability relative to each other, including selvages. The geotextile shall have no tears or defects which adversely alter its physical properties. Geotextile for temporary silt fence shall meet or exceed requirements for temporary silt fence as set forth by AASHTO M-288 and as outlined below:

PROPERTY	UNIT	TEST METHOD	TYPICAL VALUES*
Grab Strength	LB	ASTM D 4632	90
Grab Elongation	%	ASTM D 4632	20 (max)
Trapezoid Tear Strength	LB	ASTM D 4533	60
Mullen Burst Strength	PSI	ASTM D 3786	190
Permittivity	Sec-1	ASTM D 4491	0.05
Water Flow Rate	L/min/m2	ASTM D 4491	240
Apparent Opening Size	mm	ASTM D4751	0.6 (max)
Ultraviolet stability	%	ASTM D 4355	70

*Minimum values unless otherwise indicated.

G. Shredded bark Mulch

1. See Section PK-35 "Shredded Bark Mulch".

H. Hardwood Destructive Borer /Beetle Control: Bifenthrin, or approved equivalent. Applied per label.

I. Tree Growth Regulator (*Paclobutrazol*)

1. Paclobutrazol is a compound used to regulate plant growth in such a way as to restrict canopy growth and free stored or produced energy for other

uses in the tree. For highly impacted trees, this means more energy may be made available for fibrous root growth (to combat root loss), thicker darker leaves (allowing for increased photosynthesis, and increased drought tolerance), and pest suppression (often an issue with construction stressed trees); among countless other potential benefits.

J. Soil Care/Soil Amendments

1. Fertilizer and soil amendment selection shall be based upon soil test results and recommendations.

PART 3 - EXECUTION

3.1 TREE PROTECTION AND STRESS REDUCTION MEASURES

A. General

1. Refer to the TPAK for specific measures determined for each tree.
2. Installation/implementation of the following measures shall be performed in the field by an ISA Certified Arborist as provided by the Contract Arborist.
3. All work, substitutions and/or modifications shall be subject to review and approval by the NYC DPR A&H and Project Arborist.
4. All work shall conform to applicable federal, state and local regulations and industry standards.
5. The Contract Arborist shall be responsible for all items in this section.

B. Coordination of Temporary Tree and Plant Protection and Transplants. The work of the Contract Arborist coordination to include but not limited to the following:

1. Existing underground utility marker conflicts brought to the attention of the Contractor for resolution as well uncovered underground utilities as a result of work.
2. Coordinate necessary survey layout of proposed construction elements in order to provide accurate locations for tree protection measures.
3. Layout location of designated tree protection based upon proposed construction and methods of construction for that area.
4. Site walk with Site Superintendent, NYC DPR A&H, and Project Arborist to verify location of all tree protection measures prior to execution.
5. Notify Site Superintendent, NYC DPR A&H, and Project Arborist if construction adjacent to tree protection does not appear to follow specifications or prior agreement or conflicts with tree protection seem eminent.
6. Coordinate with Site Superintendent, Construction Managers, NYC DPR A&H, and Security for access of deliveries, crews, equipment, start up, and clean up of each item of work.
7. Provide "as built" of any change to location of tree protection.

8. Attend progress meetings as requested.
9. Provide submittals as required.
10. Notify Superintendent and Project Arborist of any breach or damage to tree protection requiring attention

C. Pruning

1. Specific canopy pruning for tree health, risk reduction, and construction clearance per Plan documents.
2. Size, health, species, and impact from proposed construction will be taken into consideration in determining pruning type for each designated tree. Risk Reduction Pruning will remove dead, dying, and declining limbs 2" diameter and larger. No interior green branching including sprouts will be removed unless approved by Project Arborist.
3. Contractor, Contract Arborist, and Engineer shall meet at site to determine overhead clearance conflicts between trees and construction equipment/activities to prevent breakage, impacts, or aesthetic concerns. Project Arborist may be consulted if questions arise.
4. All work shall conform to ANSI A-300 arboricultural standards. An aerial assessment shall be made for all trees climbed to report any structural weakness of concern to the Project Arborist and NYC DPR A&H.
5. Prior to climbing any tree a risk assessment will be performed using visual, sounding, or basic drilling as needed by the Contract Arborist. Trees deemed high risk should not be climbed; alternative methods should be used and the tree reported to the Project Arborist and NYC DPR A&H immediately.
6. Under no circumstances shall spikes be used for climbing trees not approved for removal.

D. Root Prune

1. The Contract Arborist shall notify NYC DPR A&H a minimum of 48 hours prior to beginning root pruning operations. No root over 1" in diameter shall be cut without authorization from NYC DPR A&H. All tree roots exposed by the pneumatic or hand excavation must be kept consistently moist with burlap covered with white plastic and checked a minimum of two (2) times a day; once in the morning and once in the afternoon, for a maximum of forty-eight (48) hours, until backfill is complete. If directed, soaker hoses shall be installed to facilitate properly moist conditions.
2. Purpose of the root pruning is to provide a more suitable cut so as to not rip or tear roots during excavations and grading with standard construction equipment. The exact location and depth along the LOD or edge of utility excavation will be determined during the layout by an ISA Certified Arborist. All roots shall be trimmed using clean, sharp, loppers, pruning shears, or pruning saws.
3. Root Pruning will be done by either mechanical means, or by supersonic air tool (SSAT) where underground hazards don't allow for trenching.

Mechanical root pruning shall be done using a trencher type machine with blade, chain, or cutting wheel. All root pruning shall be done to a minimum depth of 30", or to the maximum depth of the pending adjacent excavation; whichever is shallower. All roots greater than 1" in diameter shall be trimmed by hand following trenching.

4. If a SSAT is to be used, sufficient moisture is necessary for reducing the level of dust, increase work efficiency, and provide a hospitable environment for the tree roots and pedestrians. At a pre-work site inspection by the Contract Arborist more than 72 hours in advance of work start, subsurface probing to 24-36" with a tile probe or similar method will determine if sufficient soil moisture exists.
5. All root pruning operations shall be performed by the Contract Arborist and directed in the field by an ISA Certified Arborist with documented experience in similar SSAT excavation and root pruning.

E. Temporary Tree Protection Fence

1. Type and placement of fence to be designated on Plans and Details.
2. Attach tree protection area signs @ 30' spacing facing construction LOD. For fence lower than 6' in height, attach minimum 3 strips glow-flagging 2' long for each fence panel.
3. Tree protection area signs shall be high visibility and all weather to last the duration of the project / phase. Phone number of responsible contact person shall be included on sign.
4. Install after root pruning if shown, and prior to demolition, clearing & excavation.
5. Install at 6"-12" outside (construction side) of the Root Prune line or within the Root Prune trench.
6. As required silt fence will be outside (construction side) the tree protection fence, unless super silt fence is used in lieu of tree protection. Trenchless installation method shall be employed per Detail if Root Protection Matting is designated.
7. Exact placement of fence will be determined in walk through with Contractor, Project Arborist, Contract Arborist, Engineer and NYC DPR A&H.
8. Sequencing of the tree protection fence will be determined during the initial site walk. In any case, no construction activities shall occur in each phase or section until approved protection is installed.

F. Root Protection Mat (RPM)

1. The purpose of the RPM is to reduce compaction, rutting, and contamination of soils and root systems of trees to be retained should staging, temporary stockpile, or equipment access be required within the CRZ areas due to extreme site constraints.

2. RPM shall be used for all access within CRZ areas of trees to remain. Matting is not required where existing pavement or concrete will remain undisturbed.
3. Trees anticipated receiving temporary or repetitive materials staging, footing traffic, or equipment access within protected root zone are to receive RPM. Shredded bark mulch to a 4"-6" depth shall be installed under matting to further protect soils and roots.
4. If short duration access is needed, such as one day or less, the use of 1" steel plate, or approved equal may be needed to avoid rutting and compaction. These materials may be shifted and re-used as work progresses.
5. All-weather staging, stockpile, or other repetitive construction operations may require 12" stone layer over RPM to allow heavy vehicles have the potential to cause dynamic compaction yet without rutting original surface soils and roots. In this situation, the stone may be contained by silt fence or super silt fence where adjacent to or within a TPA.
6. All temporary RPM areas to be used beyond a single day or beyond continuous on site supervision of the Contract Arborist shall be surrounded by temporary tree protection fence as per specifications. For temporary staging of soils beyond 24 hours "trenchless" silt fence fabric shall be installed on the lower / downhill side or as directed by the Project Arborist.
7. If Silt Fence is required for Erosion Control in RPM areas, installation of silt fence shall be coordinated with the Contract Arborist and must be performed by the Contract Arborist to prevent damage to tree roots from trenching operations. Erosion control socks may be used in lieu of silt fabric if approved by the Engineer.

G. Root Aeration Matting (RAM)

1. The purpose of the RAM is to reduce compaction of existing soils and tree roots from permanent grade fills and provide separation from newly placed and compacted materials. It also provides an opportunity for air and water exchange to the existing soils where roots exist.
2. Areas to receive RAM shall be protected from disturbance prior to the specific RAM and fill placement. Temporary Tree Protection Fence shall be used for this purpose.
3. If temporary access is needed within RAM areas prior to the time of RAM and fill placement, a temporary placement of Root Protection Matting (RPM) with mulch shall be made to prevent soil compaction. Steel Plates or other temporary protection methods for short-term use may be used. Refer to "Root Protection Matting" in this section for additional detail.
4. Sites shall be prepared by the Contract Arborist. Any debris shall be removed by hand. Existing soils shall remain undisturbed and un-compacted unless otherwise approved. If site preparation (grading, excavation, etc.) is needed, all work shall be done in accordance with this

section. Refer to "Excavation for Proposed Sidewalk within Tree Protection Areas" in this section.

5. RAM material shall be placed on undisturbed and un-compacted soil except as described herein. RAM placement shall be made by the Contract Arborist.
6. RAM material shall extend to the toe of the proposed slope and "daylight".
7. RAM shall be pinned to the ground to prevent it from moving during fill placement. Pins shall be 12" "landscape nails" or approved alternative.
8. Seams within the RAM placement shall overlap by at least 2' or be connected or installed as designated by the manufacturer.
9. Fill materials (aggregate, soil, or other approved fill) shall be placed directly on the RAM and compacted only to the minimum necessary as directed by the Engineer.
10. RAM shall remain in place permanently and shall not be removed or disturbed by the contractor.
11. Filter fabric (silt fence fabric) shall be installed in 2 layers as shown in the detail (not trenched) to protect the RAM core from contamination. Installation of silt fence for erosion control shall be coordinated with the Contract Arborist and must be performed by the Contract Arborist to prevent damage to tree roots from trenching operations. Erosion control socks may be used in lieu of silt fabric if approved by the Engineer.

H. Temporary Tree Trunk and Limb Protection Wrap

1. Temporary trunk protection to cover the root flare and up to 12' height, or to the scaffold branches, or as determined for the situation.
2. Tree trunk (or limbs, as determined by Project Arborist) shall be wrapped with geocomposite material. More than one layer may be installed to reach suitable protection from the equipment or operations designated for work in the area. Attach with banding or strong tape that will not girdle the tree during the project timeframe. No nails or other devices are to penetrate the trunk.
3. Wrap shall be removed promptly after construction is complete.

I. Temporary Wooden Tree Guard

1. The temporary wooden tree guards shall be installed where shown on the contract drawings. Posts shall be installed at approximately eight feet on center, unless otherwise noted on the plans or directed by the Engineer. They shall be installed with line post/stakes securely attached with galvanized or stainless steel screws to the wooden posts and driven 18" into the ground, as directed by the Director or Arboriculture and Horticulture Unit or his designated representative, without damage to existing trees. If any temporary wooden tree guards are damaged during the course of the work, they shall be immediately repaired, or replaced by a new temporary wooden tree guard at no additional expense.

2. Temporary wooden tree guards shall remain in place and not be moved or removed without written permission of the Director of Arboriculture and Horticulture Unit or his designated representative until all work which might cause damage or defacement has been completed. Upon completion of the work, to the satisfaction of the Engineer, the Contractor shall remove and dispose of all temporary wooden tree guards.

J. Hand Excavation within Tree Protection Areas

1. For excavation within CRZ areas of trees to remain, the intent is to minimize tree and root damage from excavation activities.
2. Excavation shall be performed using SSAT, hand tools (shovels, etc), or other approved non-damaging method. Roots shall not be damaged by the excavation except for approved root pruning.
3. Refer to "Supersonic Air Tool Excavation" and "Construction Oversight by Arborist" specifications in this section for additional requirements.
4. All work shall be directly supervised by ISA Certified Arborist (provided by the Contract Arborist) in collaboration with all other trades and sub-contractors.
5. RPM shall be installed along trench sides to allow for temporary soil stockpile and access.
6. Excavate along the edge of the proposed trench closest to the trees to be protected as shown on the plans. Roots shall be uncovered and care taken to avoid damage to roots and bark.
7. Contract Arborist shall prune the exposed roots by hand using clean, sharp, loppers, pruning shears, or pruning saws. No root over 1" in diameter shall be cut without authorization from NYC DPR A&H. All tree roots exposed by the pneumatic or hand excavation must be kept consistently moist with burlap covered with white plastic and checked a minimum of two (2) times a day; once in the morning and once in the afternoon, for a maximum of forty-eight (48) hours, until backfill is complete. If directed, soaker hoses shall be installed to facilitate properly moist conditions.
8. Excavation shall not extend beyond the line where roots were pruned.
9. Contractor may proceed with conventional excavation methods or with hand excavation methods if clearance to the tree is inadequate for equipment access.
10. No roots may be cut by the contractor.

K. Supersonic Air Tool (SSAT) Excavation

1. Refer to "Hand Excavation within Tree Protection Areas" specification in this section for additional requirements.
2. At a minimum, all SSAT work shall include the use of a barrier system such as temporary walls or tents to protect property and pedestrians from flying debris.

3. Excavate along the edge of the proposed trench closest to the trees to be protected as shown on the plans. Roots shall be uncovered and care taken to avoid damage to roots and bark.
4. Excavation shall proceed per the "Hand Excavation within Tree Protection Areas" specification in this section.

L. Special Demolition of Hardscape within Tree Protection Areas

1. Sidewalks and other hardscape items to be removed from within Tree Protection Areas (TPAs) shall be removed under direct supervision of the Contract Arborist. Site restoration, if required, shall also be supervised by the Contract Arborist.
2. No mechanized equipment shall enter the TPAs. All work shall be either done by hand (with hand-operated equipment such as jackhammers) or with equipment staged outside the TPA. Alternatives for specific situations shall be reviewed by Project Arborist and Engineer in consultation with NYC DPR A&H.
3. Sequence of work shall be reviewed and coordinated with the work of the Contract Arborist by the construction manager, Contractor, Contract Arborist, Project Arborist, Engineer, and NYC DPR A&H as appropriate for the project. Methods of protection of overhead branches, trunks, and roots shall be reviewed. Refer to specifications for approved methods of temporary wrapping, or selective pruning.
4. Small equipment may operate upon existing hardscape or upon designated root protection matting if approved by the Project Arborist and Engineer. All staging or stockpiling of materials shall occur outside the TPA.
5. Demolition of paving shall not damage protected roots outside the limit of work nor below existing hardscape. Approved options include jackhammer and pick up by hand or break up by small excavator operating upon existing hardscape. Once hardscape is removed, no equipment shall operate upon stone base unless inspected and approved by arborist as roots may have grown into base below hardscape.
6. Refer to "Hand Excavation within Tree Protection Areas" and "Supersonic Airtool Excavation" specifications in this section.

M. Excavation for Proposed Sidewalk within Tree Protection Areas

1. Excavation for site preparation shall be done by SSAT or by hand.
2. Excavation shall be done by the Contract Arborist or with direct supervision by the Contract Arborist.
3. Excavation for base preparation shall not damage tree roots, trunks or branches. Areas shall be assessed for overhead clearance prior to commencement. Reference Paragraph "overhead Clearance" below.
4. Excavation shall be the minimum necessary to achieve the required grades for the new sidewalk section. Sidewalk section and required grades shall be determined by the Engineer.
5. Root Aeration Matting (RAM) shall be installed once lowest grade is reached and aggregate base for sidewalk section shall be placed on this

RAM. Ram must "daylight" out at the toe of the final proposed fill slope. Refer to "Root Aeration Matting" specifications in this section.

6. Compaction of the new aggregate base shall be the minimum necessary as dictated by the Engineer.
7. Refer to "Hand Excavation within Tree Protection Areas" and "Supersonic Airtool Excavation" specifications in this section.

N. Shredded bark mulch

1. Mulching for the duration of construction for protection and stress reduction. Mulching will increase moisture-holding capacity, minimize soil compaction, and increase needed organic composition.
2. Mulch area options:
   a. For individual trees designated on the TPAK within the TPA or curvilinear TPA install mulch to a radius equal to trunk diameter inches equated to mulch ring diameter in feet (24" trunk diameter = 24' diameter mulch ring). Where planting pit areas are restricted by hardscape or other restrictions, mulch the greatest area possible.
   b. For linear TPAs along LOD Install mulch strips a minimum 10' wide the length of critical root zones along the outside of the LOD/ Root Prune line (just inside the Tree Protection Zone) for designated significant trees impacted by proposed construction.
   c. Either option may be used as directed by the Project Arborist in consultation with NYC DPR A&H.
3. Motorized equipment shall not enter the TPA unless specifically approved by the Project Arborist and specific conditions met (RPM, AlturnaMATS, etc). Any such motorized equipment shall be operated by a certified arborist while inside the TPA.
4. Do not allow mulch to contact trunk/ root flare.
5. Mulch depth shall be 3" – 4" where not used for root protection. Where used for root protection, mulch shall be maintained at a minimum 6" depth.
6. Mulch shall remain for the duration of construction and may remain permanently if the NYC DPR A&H approves.
7. If the mulch is to be removed after construction, it must be removed by hand only. No equipment may be used.

O. Tree Growth Regulator (*Paclobutrazol*)

1. Paclobutrazol is a compound used to regulate plant growth in such a way as to restrict canopy growth and free stored or produced energy for other uses in the tree. For highly impacted trees, this means more energy may be made available for fibrous root growth (to combat root loss), thicker darker leaves allowing for increased photosynthesis, and increased drought tolerance.

2. Specific methods and dosages are contained on the label and are determined by size and species, and applied by a state licensed pesticide applicator. Designated trees are shown on the TPAK.

P. Supplemental Watering / Temporary Irrigation (Tree Protection)

1. See NYC DPR Section C, Article 14 concerning watering requirements within the contract limit line.

Q. Tree Canopy and Clearance Pruning

1. Trees to remain shall be assessed prior to construction for overhead clearance for construction activities. Contract Arborist shall recommend either canopy pruning, temporary guying/tying of select limbs, or alternative construction methods.
2. Pruning for clearance shall not remove branches above 12' or over 6" diameter.
3. All pruning proposed by the Contractor and/or Contract Arborist shall first be reviewed and approved by the NYC DPR A&H and Project Arborist.
4. Equipment exhaust should be directed away from trees as much as possible. Stationary equipment shall not exhaust directly under or towards trees.
5. Contractor shall use appropriate equipment near trees to ensure that trees are not damaged by construction. Contractor shall provide any specialized equipment needed at no additional cost to the project.
6. Any pruning shall also conform to the pruning specifications in this section.

R. Soil Care Program

1. Initial soil testing within tree protection areas is required. Conduct individual soil tests for separate tree protection areas (small adjacent areas may be tested together). Soil test shall be a representative sample from each area as approved by the Project Arborist in consultation with NYC DPR A&H. Soil testing shall include a texture analysis (sand, silt, and clay percentages), soluble salts, and sodium tests.
2. Treatments to the tree protection areas for specified trees (see TPAK) shall be based on the results of the soil analysis. Fertilization should be consistent with the recommendations of the ANSI A-300 (Part 2) Tree, Shrub, and Other Woody Plant Maintenance – Standard Practices (Fertilization) 2004, except as described herein. The contractor shall submit a fertilization schedule for review by the Project Arborist in consultation with NYC DPR A&H.
3. Application rates shall not exceed a rate of 1 pound of actual nitrogen per 1,000 square feet annually. Fertilizer used should include humic acids, soluble seaweed extracts and soil biological inoculants (mycorrhizae, etc.).
4. Applications to confined areas (i.e. street tree planting pits) should be made by soil injection. In areas where adequate application rates cannot be achieved, injection should be made to the point of refusal.

3.2 FIELD QUALITY CONTROL AND MONITORING

A. Tree Condition Monitoring

1. An ISA Certified Arborist (provided by the Contract Arborist) shall perform monitoring twice per month year round to monitor insects, disease, soil moisture levels, weather, and health changes on all trees designated on Tree Protection Action Key. Monitoring shall occur throughout project construction, and for a period of 1-year following completion of projects.
2. The monitoring will include a report that details the condition of each tree on the TPAK, treatments provided to reduce the problem, and anticipated treatments forecast for 30 days. This report will be forwarded to the Project Arborist, Engineer and Owner for documentation.
3. Any treatments under a Integrated Pest Management program recommended by the Contract Arborist shall be noted in the reports for review by the Project Arborist, Engineer and NYC DPR A&H. No work is to be performed unless approved in writing by the NYC DPR A&H.

B. Construction Oversight by Contract Arborist

1. Any work within CRZs of retained trees shall be directly supervised by the Contract Arborist.
2. If roots are encountered during excavations, the Contract Arborist, in consultation with the Project Arborist and NYC DPR A&H, shall determine appropriate means and methods to address the roots. Options may include, but not be limited to, severing the roots, hand or SSAT excavation. No root over 1" in diameter shall be cut without authorization from NYC DPR A&H. All tree roots exposed by the pneumatic or hand excavation must be kept consistently moist with burlap covered with white plastic and checked a minimum of two (2) times a day; once in the morning and once in the afternoon, for a maximum of forty-eight (48) hours, until backfill is complete. If directed, soaker hoses shall be installed to facilitate properly moist conditions.
3. Refer to "Hand Excavation within Tree Protection Areas" specification in this section.
4. All work shall be documented thoroughly, including photo documentation. Refer to site documentation submittal requirements. All submittals shall be as per the NYC Department of Transportation's Standard Highway Specifications, General Conditions, Section 1.06.31.

3.3 CONTRACTOR DAMAGES AND PENALTIES

A. See NYC DPR Section C, Article 14 concerning Tree Protection Deficiencies, "Remediation" and Restitution.

PART 4 - MEASUREMENT AND PAYMENT

4.1 TREE PROTECTION AND STRESS REDUCTION MEASURES

The following items will be paid for at the contract unit price for completed and/or installed units, based on the units outlined below. Unit prices shall include all materials, equipment, tools, labor, transportation, traffic control, operations and all work incidental thereto, including the removal of debris, except as specifically noted.

A. Tree Protection Fence:

1. MEASUREMENT: The quantity of Tree Protection Fence to be paid for shall be per linear foot of Tree Protection Fence installed.

2. PRICE TO COVER: The contract price for Tree Protection Fence shall be a unit price per linear foot of Tree Protection Fence installed and shall cover the costs of all labor, materials, equipment, insurance, and incidentals necessary to complete the work of Tree Protection Fence as shown on the Contract Drawings, as specified and as directed by the Project Arborist.

B. Trunk Protection Wrap:

1. MEASUREMENT: The quantity of Trunk Protection Wrap to be paid for shall be per each tree wrapped with Trunk Protection Wrap.

2. PRICE TO COVER: The contract price for Trunk Protection Wrap shall be a unit price per each tree wrapped with Trunk Protection Wrap and shall cover the costs of all labor, materials, equipment, insurance, and incidentals necessary to complete the work of Trunk Protection Wrap as shown on the Contract Drawings, as specified and as directed by the Project Arborist.

C. Temporary Wooden Tree Guard:

1. MEASUREMENT: The quantity of Temporary Wooden Tree Guard to be paid for shall be per each tree installed with Temporary Wooden Tree Guard.

2. PRICE TO COVER: The contract price for Temporary Wooden Tree Guard shall be a unit price per each tree installed with Temporary Wooden Tree Guard and shall cover the costs of all labor, materials, equipment, insurance, and incidentals necessary to complete the work of Temporary Wooden Tree Guard as shown on the Contract Drawings, as specified and as directed by the Project Arborist.

D. Root Aeration Matting:.

1. MEASUREMENT: The quantity of Root Aeration Matting to be paid for shall be per square foot of Root Aeration Matting installed.

2. PRICE TO COVER: The contract price for Root Aeration Matting shall be a unit price per square foot of Root Aeration Matting and shall cover the costs of all labor, materials, equipment, insurance, and incidentals necessary to complete the work of Root Aeration Matting as shown on the Contract Drawings, as specified and as directed by the Project Arborist.

E. Temporary Silt Fence:

1. MEASUREMENT: The quantity of Temporary Silt Fence to be paid for shall be per linear foot of Temporary Silt Fence installed.

2. PRICE TO COVER: The contract price for Temporary Silt Fence shall be a unit price per linear foot of Temporary Silt Fence and shall cover the costs of all labor, materials, equipment, insurance, and incidentals necessary to complete the work of Temporary Silt Fence as shown on the Contract Drawings, as specified and as directed by the Project Arborist.

F. Hand and SSAT (Supersonic Air Tool) Excavation:

1. MEASUREMENT: The quantity of Hand and SSAT (Supersonic Air Tool) Excavation to be paid for shall be per cubic yard of Hand and SSAT Excavation.

2. PRICE TO COVER: The contract price for Hand and SSAT Excavation shall be a unit price per cubic yard of Hand and SSAT Excavation and shall cover the costs of all labor, materials, equipment, insurance, and incidentals necessary to complete the work of Hand and SSAT Excavation as shown on the Contract Drawings, as specified and as directed by the Project Arborist.

G. Mechanical Root Pruning:

1. MEASUREMENT: The quantity of Mechanical Root Pruning to be paid for shall be per linear foot of root pruning by mechanical methods.

2. PRICE TO COVER: The contract price for Mechanical Root Pruning shall be a unit price per linear foot of root pruning by mechanical methods and shall cover the costs of all labor, materials, equipment, insurance, and incidentals necessary to complete the work of Mechanical Root Pruning as shown on the Contract Drawings, as specified and as directed by the Project Arborist.

H. Supersonic Air Tool (SSAT) Root Pruning

1. MEASUREMENT: The quantity of SSAT Root Pruning to be paid for shall be per linear foot of root pruning by mechanical methods.

2. PRICE TO COVER: The contract price for SSAT Root Pruning shall be a unit price per linear foot of root pruning by SSAT methods and shall cover the costs of all labor, materials, equipment, insurance, and incidentals necessary to complete the work of SSAT Root Pruning as shown on the Contract Drawings, as specified and as directed by the Project Arborist.

I. Tree Canopy and Clearance Pruning

1. MEASUREMENT: The quantity of Tree Canopy and Clearance Pruning to be paid for shall be per each tree pruned.

2. PRICE TO COVER: The contract price for Tree Canopy and Clearance Pruning shall be a unit price each tree pruned and shall cover the costs of all labor, materials, equipment, insurance, and incidentals necessary to complete the work of Tree Canopy and Clearance Pruning as shown on the Contract Drawings, as specified and as directed by the Project Arborist.

J. Tree Growth Regulator (Tree Protection)

1. MEASUREMENT: The quantity of Tree Growth Regulator (Tree Protection) to be paid for shall be per caliper inch of trees treated.

2. PRICE TO COVER: The contract price for Tree Growth Regulator (Tree Protection) shall be a unit price per caliper inch of trees treated and shall cover the costs of all labor, materials, equipment, insurance, and incidentals necessary to complete the work of applying the Tree Growth Regulator (Tree Protection) as shown on the Contract Drawings, as specified and as directed by the Project Arborist.

K. Construction Oversight by Contract Arborist:

1. MEASUREMENT: The quantity of Construction Oversight by Contract Arborist to be paid for shall be per each person-hour for arborist on-site to implement the Construction Oversight by Contract Arborist.

2. PRICE TO COVER: The contract price for Construction Oversight by Contract Arborist shall be a unit price per person-hour and shall cover the costs of all labor, materials, equipment, insurance, and incidentals necessary to complete the work of implementing the Construction Oversight by Contract Arborist as shown on the Contract Drawings, as specified and as directed by the Project Arborist.

L. Tree Condition Monitoring (Tree Protection):

1. MEASUREMENT: The quantity of Tree Condition Monitoring (Tree Protection) to be paid for shall be per the number of visits to implement the Tree Condition Monitoring.

2. PRICE TO COVER: The contract price for Tree Condition Monitoring shall be a unit price per visit and shall cover the costs of all labor, materials, equipment, insurance, and incidentals necessary to complete the work of implementing the Tree Condition Monitoring (Tree Protection) as shown on the Contract Drawings, as specified and as directed by the Project Arborist.

The work shall include required reporting and treatment.

M. Supplemental Water / Temporary Irrigation (Tree Protection)

1. MEASUREMENT: The quantity of Supplemental Water / Temporary Irrigation (Tree Protection) to be paid for shall be per m/gallons of water provided to transplanted existing trees. The unit per m/gallons shall be equivalent to 1000 gallons. The quantity applied will be determined from approved meters, or by measurement in tanks or tank trucks of predetermined capacity.

2. PRICE TO COVER: The contract price for Supplemental Water / Temporary Irrigation (Tree Protection) shall be a unit price per m/gallons of water and shall cover the costs of all labor, materials, equipment, insurance, and incidentals necessary to complete the work of supplying supplemental water to the trees as shown on the Contract Drawings, as specified and as directed by the Project Arborist.

N. Soil Care Program (Tree Protection)

1. MEASUREMENT: The quantity of Soil Care Program (Tree Protection) to be paid for shall be the number of visits to implement the Soil Care Program.

2. PRICE TO COVER: The contract price for Soil Care Program (Tree Protection) shall be a unit price per visit and shall cover the costs of all labor, materials, equipment, insurance, and incidentals necessary to complete the work of implementing the Soil Care Program (Tree Protection) as shown on the Contract Drawings, as specified and as directed by the Project Arborist.

Shredded Bark Mulch will be paid for separately under Item PK-35 "Shredded Bark Mulch."

Payment will be made under:

Item No.	Item	Pay Unit
PK-22A	TREE PROTECTION FENCE	LINEAR FOOT
PK-22B	TREE PROTECTION WRAP	EACH
PK-22C	TEMPORARY WOODEN TREE GUARD	EACH
PK-22D	ROOT AERATION MATTING	SQUARE FOOT
PK-22E	TEMPORARY SILT FENCE	LINEAR FOOT
PK-22F	HAND AND SSAT EXCAVATION	CUBIC YARD
PK-22G	MECHANICAL ROOT PRUNING	LINEAR FOOT
PK-22H	SSAT ROOT PRUNING	LINEAR FOOT
PK-22J	TREE CANOPY AND CLEARANCE PRUNING	EACH TREE
PK-22K	TREE GROWTH REGULATOR (TREE PROTECTION)	DIAMETER INCH
PK-22L	CONSTRUCTION OVERSIGHT BY CONTRACT ARBORIST	PERSON-HOURS

PK-22M	TREE CONDITION MONITORING (TREE PROTECTION)	VISIT
PK-22N	SUPPLEMENTAL WATER/TEMPORARY IRRIGATION (TREE PROTECTION) M/GALLONS	
PK-22P	SOIL CARE PROGRAM (TREE PROTECTION)	VISIT

SECTION PK-23 TREE TRANSPLANTING

PART 1 - GENERAL

1.1 DESCRIPTION

Trees are to be successfully relocated from areas adjacent or within limits of proposed for the UN Connector Road project at the United States Tennis Association location, to selected locations within Flushing Meadows Corona Park. Transplant activities shall closely follow the Transplant Plan for both technique and execution; with any deviations approved by Project Arborist in consultation with NYC DPR A&H, prior to such activity commencing.

1.2 LOCATION

Trees to be transplanted shall be flagged and identified by the Project Arborist in consultation with NYC DPR A&H. Transplant locations will be selected and staked by the Landscape Architect for approval by the NYC DPR A&H.

The Project Arborist and Landscape Architect shall conduct a pre-transplant meeting with both the Transplant Contractor, NYC DPR A&H and the General Contractor in order to confirm methods and sequencing meet the intent of the Transplant Plan.

Transplant Contractor shall familiarize themself with the site and requirements of Planting Plan. Contractor to supply all materials, labor, equipment and field supervision required to relocate, service and maintain transplants and all requirements dictated within this specification and on the plan sheets.

1.3 TREES NOT TO BE TRANSPLANTED

Trees not identified for transplanting are to be preserved and protected from damage during the transplant operation.

1.4 TREE SIZE

While the tree transplant schedule lists trees' diameter, tree size (caliper) for all transplants is measured at Diameter at Breast Height (DBH), which is 4'-6" above grade. It is the responsibility of the Transplant Contractor to confirm tree size prior to bidding, and to assume growth between bidding and actual transplanting.

1.5 PREPARATION

Prior to bud setting in the fall prior to the digging of each tree to be transplanted, each tree will be root pruned to the expected rootball size, and an application of paclobutrazol will be made in accordance with the manufacturer's guidelines. Both

root pruning and paclobutrazol application shall be performed by a qualified arboricultural contractor to be approved by the Landscape Architect and Project Arborist. Trees will be pruned, sanded, mulched, and fertilized in accordance with the Transplant Plan Action Key (TPAK). There shall be no staging and/or storage unless approved by NYC DPR A&H.

NOTE: Transplant contractor is responsible for confirming what (if any) of this preparation work may have been completed prior to their contract; and either excluding or crediting the cost for any work previously performed by them or another contractor outside this contract.

1.6 UTILITIES

Contractor will be responsible for locating underground utilities, to avoid conflict with tree transplanting.

1.7 MAINTENANCE

Contractor will be responsible for watering and maintaining the trees until the entire transplanting phase of the project is complete and accepted by the Landscape Architect; and for a period two years following acceptance of all trees. Total watering commitment shall be through the transplant phase and for a period of two years following acceptance of the trees. Maintenance shall include pest and disease management, as well as fertilization as noted in this specification.

1.8 WARRANTY

The Transplant Contractor shall warranty the tree from the time of digging until two years following final acceptance of the contract by the NYC DPR A&H. The Contractor shall replace any transplanted plant material that is dead or, in the opinion of NYC DPR A&H, in an unhealthy or unsightly condition, and/or have lost its natural shape due to dead branches, excessive pruning, inadequate or improper maintenance, in the next planting season. Plant material that has died after final acceptance shall be replaced in the next appropriate planting season, even when the next planting season falls outside the warranty period. Replacement plant material shall be of the same species of that being replaced and shall be between 3"-3.5" caliper, unless otherwise directed by NYC DPR A&H.

1.9 SUPERVISION

Tree transplanting to be supervised on-site by the Contractor's Certified Arborist. Weekly progress and monitoring reports shall be provided by the Contractor's Arborist to the Project Arborist, the Landscape Architect, and NYC DPR A&H. Reports shall continue through the maintenance period on a weekly basis through the growing season, and a monthly basis from October through March.

PART 2 - PRODUCTS

2.1 BANK SAND:

A. Obtain sand from local supply which is free of noxious weeds, stones, roots, and clods of clay.

B. Physical Properties:

Sieve Sizes	Percent Passing
No. 035	90 to 100
No. 100	10 to 20

C. Sand shall have an acidity range of pH 5.0 to 7.0 and shall not contain toxic substances harmful to plant growth or animal life.

2.2 FERTILIZER:

A. Deep root fertilize using PHC for Trees 11-22-22. or approved equal. The Transplant Contractor shall submit the fertilizer for approval by the Project Arborist.

2.3 DRAINAGE

A. The Transplant Contractor is responsible for insuring adequate drainage for the trees at the planting site. Drainage plans and materials to be used shall be submitted the Landscape Architect for approval.

2.4 SUPPLEMENTAL WATER / IRRIGATION

A. The Transplant Contractor is responsible for installation and maintenance of a temporary irrigation system that will provide regular watering during the growing season for the duration of the warranty period as in paragraphs 1.7 "Maintenance" and 1.8 " Warranty" above. Soil moisture in the planted areas shall be monitored weekly during the growing season using digital tensiometers; with a logbook being kept and submitted to the Project Arborist. Adjustments shall be made in response to the readings to insure soil moisture is kept within an adequate range for the species planted.

B. Acceptable watering strategies may include:

a. Fire hydrant connection battery powered timer and drip irrigation hose/tubing.
b. Water tank trunk and hand applied as directed;
c. Temporary above grade poly tank with battery-powered timers for drip or soaker hoses at each TPA.
d. 30-50 gallon watering cans with 6-8 drilled holes in bottom to allow slow seeping of water; spacing and rotation to reach desired gallons.

Equivalent means of effectively watering trees as approved by Engineer or Project Arborist

PART 3 - EXECUTION

3.1 SEQUENCING OF TRANSPLANTS:

A. In order to insure access and minimize disruption to the road, the following trees shall be moved in the stated order of individuals listed:

1. Group A: 161, 160, 159, 157 (Sequential starting with 161 or 157)
2. Group B: 140, 141, 148, 149 (Sequential starting with 140 or 149)
3. Group C: 153,155,156 (153 or 155 first followed by 156 last)
4. Group D: 423
5. Group E: 262, 260 263 (262 first followed by 260 or 263
6. Group F: 257, 256, 255 (In order listed)
7. Group G: 382, 383, 385, 387 (In any order)

B. Any changes to sequencing will need to be approved by the Project Arborist.

3.2 PRUNING:

A. Before digging, if directed by the Project Arborist in consultation with NYC DPR A&H, trees will be Class I pruned. No more than 25 percent of live crown shall be removed.

B. Crossing branches and branches that detract from the tree shall be removed first.

C. No heading or cutting back of major growing points shall be conducted without Project Arborist's consent.

D. All major interior branches shall be left intact, except those damaged during the pruning process or those that are as described above.

E. All cuts should be back to a lateral and removed at the branch collar.

F. All deadwood should be removed.

G. A final pruning of dead, dying, or diseased limbs shall be conducted two years after installation.

H. All pruning equipment will be kept sharp for the duration of the project.

I. Branches damaged during transplanting operations shall be pruned as directed by the Project Arborist in consultation with NYC DPR A&H.

3.3 DIGGING, TRANSPLANTING, PLANTING:

A. "The Contractor shall provide a transplant schedule that includes the caliper measurements of each tree to be transplanted, and the proposed root ball size,

methodology, and equipment for each tree, for review by the Project Arborist and NYC DPR A&H. Transplanting operations shall not proceed without written approval of this submittal by NYC DPR A&H."

B. Transplant Methods

Transplant trees using the appropriate size root ball according to the following:

Note: Size of root ball dug by mechanized tree spade refers to actual size of root ball and not the manufacturer's machine diameter designation.

1. Trees measuring less than 9" caliper, use a tree spade that digs a root ball measuring a minimum of ninety inches (90") in diameter.
2. Trees measuring nine to ten inches (9" - 10") caliper, use a tree spade that digs a root ball measuring a minimum of one-hundred two inches (102" in diameter.
3. Trees measuring greater than ten inches (10") caliper to less than thirteen inches (13") caliper use a tree spade that digs a root ball measuring a minimum of one-hundred twenty inches (120") in diameter.
4. Trees measuring greater than thirteen inches (13") caliper, prepare a round root ball using methods commonly used for transplanting such large trees as outlined below. NYC DPR A&H reserves the right to exclude trees greater than 13" at any time.
    a. The diameter of the root ball shall be one-foot (1') for each one-inch (1") of trunk caliper. Ball depth or thickness shall be a minimum of two and one-half feet (2 ½').Example: trees measuring twenty inches (20") caliper, dig a root ball measuring twenty feet (20') in diameter and 2 ½' to 3' in depth. Depth of ball to be determined in the field during excavation and after examination of root depth by Project Arborist.
    b. Upon completion of digging and shaping root ball, wrap root ball in two layers of burlap followed by two layers of heavy gauge fence wire to encircle root ball.
    c. Insert drilling pipe of diameter and size required to provide adequate support of the ball without sagging, bowing or allowing soil loss below the root ball.
5. If tree will not be relocated and backfilled within 48 hours of being dug, wrap edge of ball with plastic to reduce drying of soils. Should this occur, the Project Arborist and NYC DPR A&H must be alerted and must approve the technique.
6. Provide supplemental watering / temporary irrigation as needed to maintain root ball in moist condition.
7. Trees shall be moved in a manner that will prevent structural damage to trees being transplanted and those being preserved.

8. Holes created by removal of tree being transplanted shall be filled with soil and compacted to Project Engineer's specifications.

B. Digging

1. Trees will be centered in the tree spade or root ball when dug. Caution should be observed to minimize damage to the branches and trunks. Conflicting branches shall be tied back or removed with the Project Arborist's approval.

2. In areas where there is a conflict between curb, gutter, and/or asphalt, the Transplant Contractor shall be responsible having proper demolition of those areas conducted in a manner that does not damage the trees. All demolition within the root zones of transplant or preservation trees shall be overseen by the Transplant Contractor's certified arborist and the Project Arborist.

3. Transplant Contractor is also responsible for insuring protection of adjacent trees; including avoidance of soil compaction, trunk damage, root damage, and canopy damage. Accepted methods of protection can be found in the protection specification. The Transplant Contractor shall coordinate with the Contract and Project Arborist in places where preservation measures are already planned. Any other protection measures are the sole responsibility of the Transplant Contractor.

4. Roots protruding from the digging module shall be cut flush with root ball before planting. Roots less than 1" may be clipped with hand pruners. Roots greater than 1" shall be cut with loppers or a sharp pruning saw. No root over 1" in diameter shall be cut without authorization from NYC DPR A&H. All tree roots exposed by the pneumatic or hand excavation must be kept consistently moist with burlap covered with white plastic and checked a minimum of two (2) times a day; once in the morning and once in the afternoon, for a maximum of forty-eight (48) hours, until backfill is complete. If directed, soaker hoses shall be installed to facilitate properly moist conditions.

C. Planting

1. Plant trees as specified below:

a. Trees moved with a tree spade shall be planted at a depth of 4" to 6" above proposed finish grade. Trees shall be sanded to remove voids and air pockets. A 6" high sand berm ring shall be formed just outside the root ball over the area filled to remove air pockets. Mulch root ball with 3" to 4" of composted hardwood mulch. Place mulch in a manner where it is not contacting trunk.

b. Round balled, large trees shall be planted 4" to 6" above proposed finish grade. Plant in a manner that will not allow settling of the

root ball or surrounding soils. Install two 4" perforated pipe vertically at edge of root ball to depth of planting hole for visual inspection for excessive moisture. Backfill with clean topsoil to fill voids under pipe frame. Fill a 2'radius around root ball with topsoil. Fill remaining void to within 12" of final grade with soil dug from the planting hole. Fill the upper 12" with topsoil and bring to final grade. A 6" high sand berm ring shall be formed just outside of the root ball. Mulch root ball with 3" to 4" of composted hardwood mulch. Place mulch in a manner where it is not contacting trunk.

c. Provide positive drainage away from root ball to prevent saturated soil conditions surrounding root ball.

d. Trucks shall back onto receiving hole in the same tracks that the hole was dug. Exceptions may be outlined at discretion of the Project Arborist.

D. Post Planting

1. Provide positive drainage away from root ball to prevent saturated soil conditions surrounding root ball.

2. Final planting height of all transplants shall be 4" to 6" above surrounding existing grade as directed by the Project Arborist in consultation with NYC DPR A&H. If shallow water table is encountered, Contractor shall consult with Project Arborist and NYC DPR A&H to determine if a different planting depth can be used, or if a new site should be determined by the Landscape Architect in consultation with NYC DPR A&H.

3. Trees shall be serviced, sanded and mulched on the same day as they are relocated.

a. Sanding Tree Ball:

i. Trees shall be sanded with approved bank sand.

ii. Sand should be washed into crevice between tree ball and existing soil with intent to eliminate air pockets left between soil and tree ball.

iii. Sanding shall be completed within 24 hours after planting. Wait one week and repeat procedure.

b. Mulching:

i. Three inches of mulch will be applied within and atop the water ring.

ii. Mulch should not contact trunk of tree.

iii. Mulching should be completed within 72 hours after planting.

iv. The undersigned vegetation should be cut or pulled out of the root ball area before planting.

4. Staking

a. All staking of transplant trees shall be implemented using an underground staking system as shown on the transplant plan details sheet. Underground staking shall be inspected and approved following installation by the Project Arborist.

b. Staking materials shall be as dictated on the transplant details sheet. Specific materials shall include pressure treated wood deck planking, nylon ratchet straps, "duck-bill" type ground anchors, and 1/8th inch steel cable with eyes to connect anchors to ratchet straps.

c. Sequence of underground sequencing activities shall be discussed and confirmed with Project Arborist prior to the first transplant being staked. The approved sequencing shall then be used for all remaining transplants.

5. Fertilizing

a. Deep root fertilize using fertilizer with an NPK ratio of 11-22-22; product to be approved by Project Arborist. Apply at a rate of 8lbs per one hundred gallons of water. Inject at a depth of 8" to 10" on 2 ½ foot spacing between injection points. Injection points to extend from within 20" of tree trunk to 24" beyond edge of ball.

6. Soils Work:

a. Root balls shall be treated with a transplant preparatory soil conditioner that provides both mycorrhizal fungi and beneficial bacteria, as well as a component that increase soil water holding capacity. Product shall be approved by the Project Arborist and applied per manufacturer's instruction.

7. Protection:

a. Trees shall be protected from any adjacent construction by welded wire tree protection fence as specified in the Tree Protection Notes.

E. Tree Condition Monitoring

1. An ISA Certified Arborist (provided by the Contract Arborist) shall perform monitoring twice per month year round to monitor insects, disease, soil moisture levels, weather, and health changes on all transplanted trees. Monitoring shall occur throughout project construction, and for a period of 2-years following completion of projects.
2. The monitoring will include a report that details the condition of each transplanted tree, treatments provided to reduce the problem, and anticipated treatments forecast for 30 days. This report will be forwarded to the Project Arborist, Engineer and NYC DPR A&H for documentation.
3. Any treatments under an Integrated Pest Management program recommended by the Contract Arborist shall be noted in the reports for review by the Project Arborist, Engineer and NYC DPR A&H NYC DPR A&H. No work is to be performed unless approved in writing by the NYC DPR A&H.

3.4 ADDITIONAL PROVISIONS:

A. Provide supplemental water with temporary irrigation for a period two years following acceptance of all trees. Provide supplemental water with temporary irrigation system that will provide regular watering during the growing season for the duration of the warranty period as in paragraphs 1.7 "Maintenance" and 1.8 " Warranty" above. Soil moisture in the planted areas shall be monitored weekly during the growing season using digital tensiometers; with a logbook being kept and submitted to the Project Arborist. Adjustments shall be made in response to the readings to insure soil moisture is kept within an adequate range for the species planted

B. Monitor/review soil moisture conditions and inspect for insect activity at a minimum of twice per month for two years following planting.

C. Mobility Plan: The Transplant Contractor shall follow the Transplant Mobility Plan for routing, materials storage areas, planting locations, and any tree protection requirements. Any necessary deviations from the Transplant Mobility Plan shall be submitted in writing for approval by the Landscape Architect.

D. Transportation Considerations – Transplant Contractor is responsible for confirming routes provided in the construction drawings, and identifying areas of pruning or tying back that will be required to provide clearance at the time of transplant transportation. Upon approval from the Project Arborist, the Transplant Contractor is responsible for conducting all pruning and tying back to insure there is not damage to either the transplant trees or the conflicting trees. Any damage to either the transplant or the conflicting trees shall be restituted as dictated by the Project Arborist, and at the sole cost of the Transplant Contractor. See NYC DPR Section C, Article 14 concerning Tree Protection Deficiencies, "Remediation" and Restitution.

E. Planting Location – Final locations shall be met as dictated by the Planting Plan as prepared by the Landscape Architect, and included in the Project Documents.

F. Orientation of Trees – Maintain existing orientation of canopy or as determined by Landscape Architect.

4.1 MEASUREMENT AND PAYMENT

A. Mobilization

MEASUREMENT: The quantity of Mobilization of each size tree spade used shall be paid on a one time basis.

PRICES TO COVER: The contract price bid for mobilization of each side tree spade used shall be a unit price per each and shall cover the costs of all labor, materials, equipment, insurance, and incidentals necessary to complete the work of mobilizing the appropriate sized tree spade on a one time basis for the entire project, as shown on the Contract Drawings, as specified and as directed by the Engineer.

No additional payment will be made for any removal of the tree spade from the job site and any subsequent return of the tree spade to the site as may be needed.

B. Transplanting

MEASUREMENT: The quantity of transplanting to be paid for shall be the number of transplants satisfactorily performed using the appropriate sized tree spade.

PRICES TO COVER: The contract price bid for transplanting using the appropriate sized tree spade shall be a unit price per tree and shall cover the costs of all labor, materials, equipment, insurance, and incidentals necessary to complete the work of transplanting existing trees using the appropriate sized tree spade, as shown on the Contract Drawings, as specified and as directed by the Engineer.

The following are also included, but not limited to, in the unit price bid for each transplanting item:

The cost of transporting the tree to its new location including any work to prune or tie up branches of existing trees along the route.

The cost of staking the tree.

The cost of furnishing and incorporating bank sand and fertilizer.

The cost of maintaining the tree for a period of two years from the acceptance of the transplanting by the Project Arborist.

C. Tree Growth Regulator

MEASUREMENT: The quantity of Tree Growth Regulator to be paid for shall be the sum of the diameter inches of transplanted trees treated with Plant Growth Regulator to the satisfaction of the Engineer.

The contract price for Tree Growth Regulator shall be a unit price per diameter inches and shall cover the costs of all labor, materials, equipment, insurance, and incidentals necessary to complete the work of applying Tree Growth Regulator, as shown on the Contract Drawings, as specified and as directed by the Engineer.

D. Soil Care Program (Transplanting)

MEASUREMENT: The quantity of Soil Care Program to be paid for shall be per the number of visits to implement the Soil Care Program.

PRICE TO COVER: The contract price for Soil Care Program shall be a unit price per visit and shall cover the costs of all labor, materials, equipment, insurance, and incidentals necessary to complete the work of implementing the Soil Care Program as shown on the Contract Drawings, as specified and as directed by the Engineer.

E. Supplemental Water / Temporary Irrigation (Transplanting)

MEASUREMENT: The quantity of Supplemental Water / Temporary Irrigation (Transplanting) to be paid for shall be the number of m/gallons of water provided to transplanted trees. The unit per m/gallons shall be equivalent to 1000 gallons. The quantity applied will be determined from approved meters, or by measurement in tanks or tank trucks of predetermined capacity.

PRICE TO COVER: The contract price for Supplemental Water / Temporary Irrigation (Transplanting) shall be a unit price per m/gallons of water and shall cover the costs of all labor, materials, equipment, insurance, and incidentals necessary to complete the work of supplying supplemental water to the trees as shown on the Contract Drawings, as specified and as directed by the Engineer.

F. Tree Condition Monitoring (Transplanting):

MEASUREMENT: The quantity of Tree Condition Monitoring (Transplanting) to be paid for shall be per the number of visits to implement the Tree Condition Monitoring.

PRICE TO COVER: The contract price for Tree Condition Monitoring shall be a unit price per visit and shall cover the costs of all labor, materials, equipment, insurance, and incidentals necessary to complete the work of implementing the Tree Condition Monitoring (Transplanting) as shown on the Contract Drawings, as specified and as directed by the Engineer.

The work shall include required reporting and treatment.

Shredded Bark Mulch will be paid for separately under Item PK-35 "Shredded Bark Mulch."

Payment will be made under:

Item No.	Item	Pay Unit
PK-23A	MOBILIZE 90" SPADE	EACH
PK-23B	MOBILIZE 102" SPADE	EACH
PK-23C	MOBILIZE 120" SPADE	EACH
PK-23D	TRANSPLANT WITH 90" SPADE	EACH
PK-23E	TRANSPLANT WITH 102" SPADE	EACH
PK-23F	TRANSPLANT WITH 120" SPADE	EACH
PK-23G	TREE GROWTH REGULATOR (TRANSPLANTING)	DIAMETER INCH
PK-23H	SOIL CARE PROGRAM (TRANSPLANTING)	VISITS
PK-23J	SUPPLEMENTAL WATER / TEMPORARY IRRIGATION (TRANSPLANTING)	M/GALLONS
PK-23K	TREE CONDITION MONITORING (TRANSPLANTING)	VISITS

SECTION PK-26 **TREE REMOVAL OVER 6" TO 12" DBH**

WORK: Under this Section, the Contractor shall cut and remove within the contract limits, all trees over six (6) inches DBH, including the root to a depth of three (3) feet below the surface, where shown on the plans or as directed by the Engineer.

Note: DBH is defined as Diameter at Breast Height, which is 4'-6" above grade.

SPECIAL REQUIREMENTS FOR LONGHORNED BEETLE QUARANTINE ZONE: For tree work to be performed within the quarantine zone, the Contractor shall utilize the service of a Sub/Contractor certified by the New York State Department of Agriculture and Markets. Due to current Federal, State and NYC DPR policy, any wood waste that is generated must be completely chipped within the Quarantine Zone, by said certified Sub/Contractor. Log splitting equipment, where necessary, shall be utilized at no extra cost to the City. See NYC DPR General Conditions, Special Provisions, Section C, Article 14 "Tree Work". For additional information regarding procedures, contact the NYC DPR Arboriculture and Horticulture Unit by email at Capital.Arb-Hort@parks.nyc.gov. Also, see requirements listed under heading "Submittals".

All submittals shall be as per the NYC Department of Transportation's Standard Highway Specifications, General Conditions, Section 1.06.31.

METHOD: The Contractor shall carefully protect against damage all existing trees, plants and other features to remain. He shall be liable for any damage to such trees, plants, park features and other property caused by Tree Removal operations and all damaged property shall be replaced or restored to its original condition to the satisfaction of the Engineer.

The Contractor shall cut and remove all trees designated for removal within the limits of the contract or as directed by the Engineer. The stumps and roots of these trees shall be removed to a depth of three (3) feet below the ground surface except in areas of fill greater than three (3) feet, where such trees may be cut flush with the ground surface. All voids and excavations left after removal of the tree and roots shall be backfilled to grade with topsoil under Section PK-37A "Topsoil for Planting Pits and Beds." The fill shall be placed and compacted by acceptable methods to the satisfaction of the Engineer. Chips generated by root removal operations shall be removed prior to backfilling.

Cutting of trees shall be done by competent workmen only and in workmanlike manner. All trees shall be "topped" and "limbed" previous to felling unless otherwise directed by the Engineer. All branches, limbs, trunks, stumps, roots and other debris shall be removed from the site or otherwise disposed of to the satisfaction of the Engineer.

No trees are to be removed except as ordered by the Engineer.

SUBMITTALS: All submittals shall be as per the NYC Department of Transportation's Standard Highway Specifications, General Conditions, Section 1.06.31.

Qualifications In Quarantine Zone:
State Certification- For all contracts within the Quarantine Zone, the Sub/Contractor must submit a copy of a valid Compliance Agreement issued by the State of New York Department of Agriculture and Markets, Division of Plant Industry.

MEASUREMENT AND PAYMENT: The quantity to be measured for payment shall be the number of trees, six (6") inches or more in diameter, completely removed as shown on the Contract Drawings, as specified and as directed by the Engineer.

The contract price bid shall be a unit price for **EACH** existing tree, in the size group specified, removed and shall include the cost of all labor, materials, equipment, insurance, and incidentals necessary for removing and disposing trees, including, but not limited to, removal of root to a depth of three (3') feet, and to complete the work in accordance with the Contract Drawings, the specifications, and the directions of the Engineer. The cost of State Certification and chipping wood waste shall also be deemed included in the bid prices when the work is located within the Quarantine zone.

Payment for topsoil to backfill excavation required to remove tree stumps shall be paid for under item PK-37A "Topsoil for Planting Pits and Beds.

Payment will be made under:

Item No.	Item	Pay Unit
PK-26A	TREE REMOVAL (6" TO UNDER 12" DBH)	EACH
PK-26B	TREE REMOVAL (12" TO UNDER 18" DBH)	EACH
PK-26C	TREE REMOVAL (18" TO UNDER 24" DBH)	EACH
PK-26D	TREE REMOVAL (24" TO UNDER 30" DBH)	EACH
PK-26E	TREE REMOVAL (30" TO UNDER 36" DBH)	EACH
PK-26F	TREE REMOVAL (36" DBH AND OVER)	EACH

SECTION PK-34 COMPOST - TRUCK MEASURE

WORK: Under this Section, the Contractor shall furnish, spread, and incorporate **COMPOST – TRUCK MEASURE** in accordance with the plans and specifications, to the satisfaction of the Engineer.

MATERIALS: Compost shall contain organic matter, or material of generally humus nature capable of sustaining the growth of vegetation, with no admixture of refuse or material toxic to plant growth. The Compost shall be free of pathogens and stones, lumps, or similar objects larger than two inches (2") in greatest diameter, as well as roots, brush, and weeds.

Composts that have been derived from organic wastes such as food and agriculture residues, animal manures, composted leaves that meet the above requirements, and are approved by the New York State DEC, are acceptable compost sources. Compost shall have an approximate N-P-K analysis of at least 1-1-0 as delivered, with a pH between 5.5 and 8.0 and a solids content of at least fifty percent (50%). Compost shall have a minimum of twenty five (25%) to a maximum of fifty percent (50%) organic material.

Compost shall be from Long Island Compost, Islip, NY or "Nature's Choice Compost" by Nature's Choice Corp., Union, NJ, or Agresoil compost by Agresource, Inc. Amesbury, MA or approved equal.

Compost available from NYC Department of Sanitation may be acceptable for purposes of this specification. See www.nyc.gov/sanitation or www.nyccompost.org for pick-up sites.

Organic biosolids are not acceptable under this specification.

SUBMITTAL: All submittals shall be as per the NYC Department of Transportation's Standard Highway Specifications, General Conditions, Section 1.06.31.

The Contractor shall submit samples of compost for the approval of the Landscape Architect. The Contractor, at the direction and discretion of the Engineer, shall furnish a certified report of an approved analytical chemist showing the mechanical and chemical analysis of representative samples of the compost they propose to use. All samples are to be taken by the Engineer and delivered to the Laboratory. The price bid shall include laboratory and inspection charges.

No compost shall be delivered until the approval of samples by the Engineer, but such approval does not constitute final acceptance. The Engineer reserves the right to reject, on or after delivery, any material which does not, in their opinion, meet these specifications. When compost is stored on the job, it shall be done as directed by the Engineer.

METHOD: After all areas to be seeded, sodded or planted have been fine graded to their compacted depth as per the seed, sod or planting specification, compost shall be spread over these areas at the rate of one inch (1") over the spread topsoil. Thoroughly incorporate the

compost into the top five inches (5") of the soil by rototilling.

When compost has been thoroughly incorporated, the soil shall be tested for pH and limestone added if needed under Section PK-455 "Limestone," based on the rates in Section PK-465 "Sod with Compost." Application of Section PK-454A "Commercial Fertilizer Low Phosphorus (Slow Release)" shall be incorporated in the soil as applicable under Section PK-465 "Sod with Compost" or Section PK-37A "Topsoil for Planting Pits and Beds".

MEASUREMENT AND PAYMENT: The quantity of **COMPOST - TRUCK MEASURE** to be paid for under this Item shall be the number of **CUBIC YARDS** furnished in accordance with the Contract Drawings and specifications, to the satisfaction of the Engineer. The compost shall be measured in trucks by the Engineer at the point of delivery.

The price bid shall be a unit price per **CUBIC YARD** of Compost and shall include the cost of all labor, materials, equipment, insurance, and incidental necessary or required to furnish, spread, and incorporate compost and all other work incidental thereto, all in accordance with the Contract Drawings, the specifications and the directions of the Engineer.

Limestone shall be paid for under Item PK-455 "Limestone."

Commercial Fertilizer Low Phosphorus (Slow Release) shall be paid for under Item PK-454A "Commercial Fertilizer Low Phosphorus (Slow Release)."

Payment will be made under:

Item No.	Item	Pay Unit
PK-34	COMPOST – TRUCK MEASURE	CUBIC YARD

SECTION PK-35 SHREDDED BARK MULCH

WORK: Under this Section, the Contractor shall furnish and place **SHREDDED BARK MULCH** in accordance with the plans, specifications, and directions of the Engineer.

MATERIAL: Shredded Bark Mulch shall be a natural forest product composed of shredded bark or wood not exceeding three inches (3") in length and one inch (1") in width. Mulch shall be derived from tree material, not from wood waste or by-products like sawdust, shredded palettes, or other debris. Mulch shall be natural in color and not dyed. It shall be of a uniform grade with no additives or any other treatment. Mulch with leaves, twigs, and/or debris shall not be acceptable. The pH factor should range from 5.8 to 6.2.

METHOD: Shredded Bark Mulch shall be installed as indicated under Section PK-476 "Plant Material." and Section PK-22 "Tree Protection and Preservation."

MEASUREMENT AND PAYMENT: The quantity of **SHREDDED BARK MULCH** to be paid for under this item shall be the number of **SQUARE YARDS** of mulch measured in final position, actually placed to the satisfaction of the Engineer.

The price bid shall be a unit price per **SQUARE YARD** and shall include the cost of all labor, materials, equipment, insurance, and incidentals necessary or required to complete the work including, but not limited to, furnishing and applying shredded bark mulch, all in accordance with the Contract Drawings, the specifications and direction of the Engineer.

Payment will be made under:

Item No.	Item	Pay Unit
PK-35	SHREDDED BARK MULCH	SQUARE YARD

SECTION PK-37A TOPSOIL FOR PLANTING PITS AND BEDS

WORK: Under this Section, the Contractor shall furnish, place and incorporate **TOPSOIL FOR PLANTING PITS AND BEDS** in accordance with the plans, specifications, and directions of the Engineer. The Contractor shall be liable for any damage to property caused by topsoil operations and all areas and construction disturbed shall be restored to their original condition, to the satisfaction of the Engineer.

MATERIALS:

Topsoil for Planting Pits and Beds: Shall be a sandy/ loam, friable soil that has been removed to a depth of one foot (1') or less, if subsoil is encountered. Topsoil shall be of uniform quality, free from hard clods, stiff clay, hard pan, sods, partially disintegrated stone, lime, cement, ashes, slag, concrete, tar residues, tarred paper, boards, chips, sticks, or any other undesirable material. No topsoil shall be delivered in a frozen or muddy condition.

Topsoil shall be provided by Island Topsoil, Syosset, NY, Long Island Compost, Yaphank, NY, Natures Choice, Jersey City, NJ, New York Recycling and Materials, Inwood, NY or approved equal.

1. Organic Content: Topsoil shall contain at least five percent (5%) organic matter determined by loss on ignition, of moisture-free samples dried in accordance with the current method of the Association of Official Agricultural Chemists. The organic matter shall not exceed twelve percent (12%).

2. The acidity range shall be pH 6.0 to pH 7.5 inclusive.

3. Soil Textural Analysis: Topsoil shall consist of the following percentages of sand, silt and clay. Any soil that does not meet the requirements below will be rejected and removed from the site. When directed by the NYC DPR Arboriculture and Horticulture Unit, the Contractor may be granted permission to screen delivered topsoil in order to achieve particle size compliance. Additional testing at the Contractor's expense will be required to confirm compliance after completion of on-site screening.

Sand (0.05 to 2 mm)	40% to 75%
Silt (0.002 to 0.05 mm)	15% to 65%
Clay (<0.002 mm)	20% maximum

4. Electrical Conductivity shall be a maximum of 1.50 mmhos/cm. A higher level would indicate excessive salt content and material will be rejected and removed from the site.

5. Nutrients: Topsoil test results shall show recommendations for soil additives or fertilizers to correct nutrient deficiencies as necessary. Soil additives and fertilizers shall be incorporated as necessary at the Contractor's expense. Follow the fertilizer recommendation as provided by the required laboratory.

The Contractor shall at the direction and discretion of the Engineer, or when quantities exceed one hundred (100) cubic yards, furnish a certified report of an approved Analytical Chemist showing the analysis of representative samples of the topsoil which they propose to use. All samples are to be received by the Engineer and delivered to the laboratory, and the price bid shall include inspection and laboratory charges. Samples shall be submitted 48 hours prior to the delivery of topsoil.

No topsoil shall be delivered until the approval of samples by the Engineer, but such approval shall not constitute final acceptance. The Engineer reserves the right to reject on or after delivery any material that does not, in their opinion, meet these specifications.

INSTALLATION:

Preparation of Subgrade: Hollows, depressions, and gullies shall be filled with acceptable material free from stones over two inches (2") in diameter, cinders, rubbish, and other unsuitable material. All surplus material and debris shall be removed and disposed of as directed by the Engineer.

Loosen subsoil by scarifying, ripping or tilling using disks, harrows or other suitable equipment to a depth of (4"- 6") immediately before placing any topsoil. Repeat cultivation in areas where equipment used for hauling and spreading topsoil has compacted subsoil.

Placement and Spreading of Topsoil : No topsoil shall be handled when, in the opinion of the Engineer, it is too wet. Place and spread approved topsoil in dry weather on dry unfrozen grade. Topsoil for groundcover and herbaceous plant areas shall be mixed with compost as specified in Section PK-34 "Compost – Truck Measure" in the proportions of seven (7) cubic yards of topsoil to two (2) cubic yards of compost and spread to a compacted depth of nine (9"), or as indicated on the drawings. No deduction shall be made for the volume of compost in the measurement of topsoil quantities.

Preparation of Final Grade: Thoroughly cultivate topsoil to minimum depth of (4") by rototilling or hand methods where compaction has occurred and to break up all soil lumps. Float until surface is smooth.

SUBMITTALS: All submittals shall be as per the NYC Department of Transportation's Standard Highway Specifications, General Conditions, Section 1.06.31.

Proposed Samples and Test Results: The Contractor shall submit two (2) five pound (5 lb.) bags to the Landscape Architect, with the testing report attached, for approval prior to delivering material to the site.
The Contractor shall at the direction and discretion of the Engineer, or when quantities exceed one hundred (100) cubic yards, furnish a certified report showing the analysis of representative samples of the topsoil which they propose to use.

Testing shall be performed by an approved Testing Agency. Testing Agency Qualifications: An independent, state-operated, or university-operated laboratory; experienced in soil science, soil

testing, and plant nutrition; with the experience and capability to conduct the testing indicated; and that specializes in types of tests to be performed.

Laboratory testing performed more than six months prior to the Contractor's submittal date will be rejected. The testing shall include: pH, organic matter content (loss on ignition method), soluble salt level and soil textural analysis. Price bid shall include all inspection and laboratory fees.

No topsoil shall be delivered to the site until the approval of samples by the Landscape Architect, but such approval shall not constitute final acceptance.

DELIVERY AND APPROVAL: The Contractor shall notify the Resident Engineer a minimum of 48 hours prior to the intended topsoil delivery date. All imported topsoil shall be delivered in trucks and will be subject to visual inspection and additional testing. The topsoil shall NOT be spread until the Engineers' sampling and testing is completed, unless otherwise directed. The Engineer reserves the right to reject any topsoil which does not fall within acceptable limitations of this specification and the initial submittal to design including the landscape architect approved sample and the approved test report. Where the topsoil is rejected, it shall be immediately removed from the site. Where it has been determined by the Arboriculture and Horticulture Unit that soil amendments are allowable, the correction shall be made at the Contractor's expense, except as outlined below. Additional testing after amending shall also be at the Contractor's expense.

Testing shall be performed by an approved Testing Agency. Testing Agency Qualifications: An independent, state-operated, or university-operated laboratory; experienced in soil science, soil testing, and plant nutrition; with the experience and capability to conduct the testing indicated; and that specializes in types of tests to be performed.

Engineer's determination based on test results of delivered material: Should Agency's test results show organic content between 3% and 5%, and where allowed by the Engineer, organic matter may be added and thoroughly incorporated in the stockpile to bring the soil to the required minimum of 5% organic content. The Contractor will be required to re-test after incorporation of additional organic matter to assure a minimum organic content of 5%. Under no circumstances shall the organic content exceed twelve percent (12%). Should Agency test results of delivered material show organic content greater than twelve percent (12%), the soil shall be rejected and removed from the site.
Should Agency's test results show pH between pH 5.0 and 6.0, and where directed by the Engineer, limestone may be added at the Contractor's expense to bring the soil to the required minimum pH 6.0. The Contractor will be required to re-test after incorporation of limestone to assure a minimum pH 6.0. Should Engineer's test results of delivered material show a pH greater than 7.5 the soil shall be rejected and removed from the site.

The Engineer reserves the right to reject on or after delivery any material that does not, in their opinion, meet these specifications.

APPEAL PROCESS: The Resident Engineer shall visually check for discrepancies between the

delivered soil and the approved submittal and sample. If the Engineer suspects that the topsoil delivered to the site has excessively high levels of organic matter, clay, etc. that would not be within the allowable levels listed in this specification, the soil will be rejected until additional testing proves otherwise. Should the Contractor contest the Engineer's determination, the Arboriculture and Horticulture Unit will take samples so additional tests may be performed at Contractor's expense.

Testing shall be performed by an approved Testing Agency. Testing Agency Qualifications: An independent, state-operated, or university-operated laboratory; experienced in soil science, soil testing, and plant nutrition; with the experience and capability to conduct the testing indicated; and that specializes in types of tests to be performed.

These results shall be considered final.

MEASUREMENT AND PAYMENT: The quantity of **TOPSOIL FOR PLANTING PITS AND BEDS*** to be paid for under this Item shall be the number of **CUBIC YARDS** of topsoil incorporated in the completed work, to the satisfaction of the Engineer, measured at the site in trucks used for delivery,. No topsoil shall be furnished until ordered by the Engineer.

The price bid shall be a unit price per **CUBIC YARD** of topsoil measured in trucks used for delivery, and shall include the cost of all labor, materials, equipment, insurance, and incidentals necessary to prepare topsoil areas, test, furnish, place, and incorporate topsoil and all other work incidental thereto, all in accordance with the Contract Drawings, the specifications and the directions of the Engineer.

The furnishing and incorporating of limestone or compost, where deemed necessary by the Agency shall be paid for respectively under Item PK-34 "Compost – Truck Measure" and Item PK-455 "Limestone".

Unclassified Excavation, (where required prior to installation of new topsoil), shall be paid under Item 6.002 AAN.

Payment will be made under:

Item No.	Item	Pay Unit
PK-37A	TOPSOIL FOR PLANTING PITS AND BEDS	CUBIC YARD

*Delivery ticket with name and address of vendor, date, and estimated volume must be supplied to the Engineer prior to truck measurement.

SECTION PK-38A **TOPSOIL FOR SEEDED AND SODDED AREAS**

WORK: Under this Section, the Contractor shall furnish, place, and incorporate **TOPSOIL FOR SEEDED AND SODDED AREAS** in accordance with the plans, specifications, and directions of the Engineer. The Contractor shall be liable for any damage to property caused by topsoil operations and all areas and construction disturbed shall be restored to their original condition, to the satisfaction of the Engineer.

MATERIALS:

Topsoil for Seeded and Sodded Areas: Shall be a sandy/ loam, friable soil that has been removed to a depth of one foot (1') or less, if subsoil is encountered. Topsoil shall be of uniform quality, free from hard clods, stiff clay, hard pan, sods, partially disintegrated stone, lime, cement, ashes, slag, concrete, tar residues, tarred paper, boards, chips, sticks, or any other undesirable material. No topsoil shall be delivered in a frozen or muddy condition.

Topsoil shall be provided by Island Topsoil, Syosset, NY, Long Island Compost, Yaphank, NY, Natures Choice, Jersey City, NJ, American Landscape Supply Limited, Huntington Station, NY, New York Recycling and Materials, Inwood, NY or approved equal.

1. Organic Content: Topsoil shall contain at least three percent (3%) organic matter determined by loss on ignition, of moisture-free samples dried in accordance with the current method of the Association of Official Agricultural Chemists. The organic content shall not exceed eight percent (8%).

2. The acidity range shall be pH 6.0 to pH 7.5 inclusive.

3. Soil Textural Analysis: Topsoil shall consist of the following percentages of sand, silt and clay. Any soil that does not meet the requirements below will be rejected and removed from the site. When directed by NYC DPR Arboriculture and Horticulture Unit, the Contractor may be granted permission to screen delivered topsoil in order to achieve particle size compliance. Additional testing at the Contractor's expense will be required to confirm compliance after completion of on-site screening.

Sand (0.05 to 2 mm)	40% to 75%
Silt (0.002 to 0.05 mm)	15% to 65%
Clay (<0.002 mm)	20% maximum

4. Electrical Conductivity shall be maximum 1.50 mmhos/cm. A higher level would indicate excessive salt content and material will be rejected and removed from the site.

5. Nutrients: Topsoil test results shall show recommendations for soil additives or fertilizers to correct nutrient deficiencies as necessary. Soil additives and fertilizers shall be incorporated as necessary at the Contractor's expense. Follow the fertilizer recommendation as provided by the required laboratory.

The Contractor shall at the direction and discretion of the Engineer, or when quantities exceed one hundred (100) cubic yards, furnish a certified report of an approved Analytical Chemist showing the analysis of representative samples of the topsoil which they propose to use. All samples are to be received by the Engineer and delivered to the laboratory, and the price bid shall include inspection and laboratory charges. Samples shall be submitted 48 hours prior to the delivery of topsoil.

No topsoil shall be delivered until the approval of samples by the Engineer, but such approval shall not constitute final acceptance. The Engineer reserves the right to reject on or after delivery any material that does not, in their opinion, meet these specifications.

INSTALLATION:

Preparation of Subgrade: Hollows, depressions, and gullies shall be filled with acceptable material free from stones over two inches (2") in diameter, cinders, rubbish, and other unsuitable material. All surplus material and debris shall be removed and disposed of as directed by the Engineer.

Loosen subsoil by scarifying, ripping or tilling using disks, harrows or other suitable equipment to a depth of (4"-6") immediately before placing any topsoil. Repeat cultivation in areas where equipment used for hauling and spreading topsoil has compacted subsoil.

Placement and Spreading of Topsoil: No topsoil shall be handled when, in the opinion of the Engineer, it is too wet. Place and spread approved topsoil in dry weather on dry unfrozen grade.

Preparation of Final Grade: Thoroughly cultivate topsoil to minimum depth of (4") by rototilling or hand methods where compaction has occurred and to break up all soil lumps. Float until surface is smooth. Topsoil for all seeded or sodded areas shall be spread to a compacted depth of five inches (5").

SUBMITTALS: All submittals shall be as per the NYC Department of Transportation's Standard Highway Specifications, General Conditions, Section 1.06.31.

Proposed Samples and Test Results: The Contractor shall submit two (2) five pound (5 lb.) bags to the Landscape Architect, with the testing report attached, for approval prior to delivering material to the site.
The Contractor shall at the direction and discretion of the Engineer, or when quantities exceed one hundred (100) cubic yards, furnish a certified report showing the analysis of representative samples of the topsoil which they propose to use.

Testing shall be performed by an approved Testing Agency. Testing Agency Qualifications: An independent, state-operated, or university-operated laboratory; experienced in soil science, soil testing, and plant nutrition; with the experience and capability to conduct the testing indicated; and that specializes in types of tests to be performed.

Laboratory testing performed more than six months prior to the Contractor's submittal date will be rejected. The testing shall include: pH, organic matter content (loss on ignition method), soluble salt level, sieve analysis and soil textural analysis and nutrient additive recommendations. Price bid shall include all inspection and laboratory fees.

No topsoil shall be delivered to the site until the approval of samples by the Landscape Architect, but such approval shall not constitute final acceptance.

DELIVERY AND APPROVAL: The Contractor shall notify the Resident Engineer a minimum of 48 hours prior to the intended topsoil delivery date. All imported topsoil shall be delivered in trucks and will be subject to visual inspection and additional testing. The topsoil shall NOT be spread until the Engineers' sampling and testing is completed, unless otherwise directed. The Engineer reserves the right to reject any topsoil which does not fall within acceptable limitations of this specification and the initial submittal to design including the landscape architect approved sample and the approved test report. Where the topsoil is rejected, it shall be immediately removed from the site. Where it has been determined by the NYC DPR Arboriculture and Horticulture Unit that soil amendments are needed per soil lab recommendations, the correction shall be made at the Contractor's expense. Additional testing after amending shall also be at the Contractor's expense.

Testing shall be performed by an approved Testing Agency. Testing Agency Qualifications: An independent, state-operated, or university-operated laboratory; experienced in soil science, soil testing, and plant nutrition; with the experience and capability to conduct the testing indicated; and that specializes in types of tests to be performed.

Engineer's determination based on test results of delivered material: Under no circumstances shall the organic content exceed twelve percent (12%). Should Agency test results of delivered material show organic content greater than twelve percent (12%), the soil shall be rejected and removed from the site.

Should Agency's test results show pH between pH 5.0 and 6.0, and where directed by the Engineer, limestone may be added to bring the soil to the required minimum pH 6.0. The Contractor will be required to re-test after incorporation of limestone to assure a minimum pH 6.0. Should Engineer's test results of delivered material show a pH greater than 7.5, the soil shall be rejected and removed from the site.

The Engineer reserves the right to reject on or after delivery any material that does not, in their opinion, meet these specifications.

APPEAL PROCESS: The Resident Engineer shall visually check for discrepancies between the delivered soil and the approved submittal and sample. If the Engineer suspects that the topsoil delivered to the site has excessively high levels of organic matter, pH, clay, etc. that would not be within the allowable levels listed in this specification, the soil will be rejected until additional testing proves otherwise. Should the Contractor contest the Engineer's determination, the Arboriculture and Horticulture Unit will take samples so additional tests may be performed at Contractor's expense.

Testing shall be performed by an approved Testing Agency. Testing Agency Qualifications: An independent, state-operated, or university-operated laboratory; experienced in soil science, soil testing, and plant nutrition; with the experience and capability to conduct the testing indicated; and that specializes in types of tests to be performed.

These results shall be considered final.

MEASUREMENT AND PAYMENT: The quantity of **TOPSOIL FOR SEEDED AND SODDED AREAS*** to be paid for under this Item shall be the number of **CUBIC YARDS** of topsoil incorporated in the completed work, to the satisfaction of the Engineer, measured at the site in trucks used for delivery. No topsoil shall be furnished until ordered by the Engineer.

The price bid shall be a unit price per **CUBIC YARD** of topsoil measured in trucks used for delivery, and shall include the cost of all labor, materials, and equipment necessary to prepare topsoil areas, soil testing, furnish, place, and incorporate topsoil and all other work incidental thereto, all in accordance with the Contract Drawings, the specifications and the directions of the Engineer.

The furnishing and incorporating of limestone where deemed necessary by the Agency shall be paid for under Item PK-455 "Limestone".

Unclassified Excavation, (where required prior to installation of new topsoil) shall be paid under Item 6.02 AAN.

Payment will be made under:

Item No.	Item	Pay Unit
PK-38A	TOPSOIL FOR SEEDED AND SODDED AREAS	CUBIC YARD

*Delivery ticket with name and address of vendor, date, and estimated volume must be supplied to the Engineer prior to truck measurement.

SECTION PK-227A GRANITE BLOCK PAVEMENT ON SAND

PK-227A.1: DESCRIPTION. Under this Item, the Contractor shall construct GRANITE BLOCK PAVEMENT ON SAND in accordance with the plans, specifications, and directions of the Engineer. The joints shall be filled with sand or sand cement grout, as shown on the drawings.

PK-227A.2. MATERIAL. Blocks shall be new or used and shall be cut from fine to medium grained sound and durable granite. The granite shall be reasonably uniform in quality and texture throughout and shall be free from an excess of mica and feldspar and from seams, scales, or evidence of disintegration. If used blocks are used they shall be clean, free of mortar, asphalt, etc.

(A) BLOCKS

Blocks shall be fairly rectangular in shape and shall be between nine (9") inches and twelve (12") inches in length, four (4") inches to five (5") inches in width; and four (4") inches to five (5") inches in depth. The blocks shall be cut so that opposite faces will be approximately parallel and adjoining faces approximately at right angles to each other. Blocks shall be so dressed that they may be laid with one inch (1") joints. All blocks shall have one reasonably smooth split head.

(B) GEOTEXTILE

Geotextile shall be synthetic, non-woven and rotproof having no tears or defects which adversely alter its physical properties. Geotextile used shall conform to the following properties:

	ASTM Test	
Elongation	D4632	>=50%
Grab Strength	D4632	400 N
Tear Strength	D4533	250N
Puncture Strength	D4833	250N
Permittivity (min)	D4491	.21/sec
Apparent Opening Size (max)	D4751	.25 mm

Geotextile shall be similar to FX-50HS by Carthage Mills, Cincinnati, OH; 160N, as manufactured by Mirafi, Charlotte, NC; AEF 880, as manufactured by Boom Environmental Products, New Bedford, MA, or approved equal.

SAMPLES: All submittals shall be as per the NYC Department of Transportation's Standard Highway Specifications, General Conditions, Section 1.06.31. The Contractor shall furnish two (2) samples of blocks before starting work for approval. Blocks used on the work shall conform to the approved samples in all aspects, in the opinion of the Engineer.

PK-227A.3. METHODS.

(A) PREPARATION OF SUBGRADE

The Contractor shall trim and roll the subgrade to smooth, uniform lines to the satisfaction of the Engineer, prior to placing the pavement. The Contractor shall place geotextile over the prepared subgrade, overlapping edges a minimum of six (6") inches to ensure complete coverage prior to placing the sand base.

(B) SAND CUSHION

The blocks shall be laid on a sand cushion of a maximum thickness of one inch (1"). Cushion sand shall

consist of clean, hard, durable uncoated stone particles, free of lumps of clay and all deleterious substances and shall be so graded that when dry, one hundred percent shall pass a 1/4 inch square opening sieve; not more than thirty-five (35%) percent by weight shall pass a No. 50 sieve. Cushion sand may be rejected if it contains more than ten percent by weight of loam and silt. The sand cushion shall be compacted by being rolled with a roller weighing one hundred fifty (150 lbs.) pounds per foot of width or by tamping, as directed by the Engineer.

(C) SETTING BLOCKS

The blocks shall be carefully laid on a sand cushion according to the patterns shown on the plans or as directed by the Engineer. Joints between blocks shall be a maximum of one (1") inch and a minimum of three-quarters (3/4") inch in width. All blocks shall be clean when placed in the pavement. Blocks which, in the opinion of the Engineer, are not satisfactorily clean shall be well washed before being placed. Cutting of blocks to meet pattern requirements will be permitted, subject to the approval of the Engineer.

After a sufficient area of block pavement has been laid, the surface shall be tested with a ten foot straight edge laid parallel with the center line and any depression exceeding one-quarter inch (1/4") shall be corrected and brought to the proper grade. All stones disturbed in making replacements or correcting depressions shall be settled into place by carefully ramming or tamping to grade by the use of a hand tamper applied upon a two (2") inch board. Each section of pavement must be acceptable to the Engineer before the joints in that section are filled.

(D) FILLING JOINTS

Where sand joints are called for, the joints shall be filled with cushion sand. The sand shall be firmly packed in the joints between the blocks. Immediately after the joints are filled, the pavement shall be swept clean.

Where sand cement joints are called for, the joints shall be completely filled with a cement grout mixture of one part Portland Cement and two parts sand. The grout shall be firmly packed in the joints between blocks. Immediately after the joints are filled, the pavement shall be swept clean. The finished surface shall be free of all cement stain and excess grout and shall be acceptable to the Engineer.

PK-227A.4. MEASUREMENT AND PAYMENT. The quantity of granite block pavement on sand to be paid for under this Item shall be the number of square yards constructed at the site to the satisfaction of the Engineer.

The price bid shall be a unit price per square yard of granite block pavement on sand in the work complete, and shall include furnishing all labor, materials, equipment, insurance, and incidentals necessary to prepare the subgrade, furnish and place geotextile and sand cushion, furnish and place blocks, furnish, place and compact joint filler and all incidentals necessary to complete the work in accordance with the Contract Drawings, the specifications and directions of the Engineer.

Excavation shall be paid for separately.

Payment will be made under:

Item No.	Item	Pay Unit
PK-227A	GRANITE BLOCK PAVEMENT ON SAND.	S.Y.

SECTION PK-366 TIMBER BARRIER RAIL - ONE RAIL (TYPE C)

PK-366.1. DESCRIPTION. Under these items, the Contractor shall furnish and erect timber barrier railing in accordance with the plans and specifications and directions of the Engineer. The work under these items includes necessary excavation and backfill. Unless otherwise indicated, the barrier rail shall conform to NYC Department of Parks & Recreation Standard Detail Sheet "Barrier Rail Types A-D".

PK-366.2. MATERIALS. All timber posts & rail shall be similar to those manufactured by MCM Forest Products, Hoboken, NJ, or approved equivalent.

Posts and Rails: Posts and rails shall be manufactured of No. 1 common Douglas Fir or Yellow Pine. The posts and rails shall be manufactured in accordance with details shown on the plans. All exposed corners and faces shall be free from damage, dog holes, and pike or cant holes.

Hardware: All hardware shall be hot-dipped galvanized and shall include bolts with necessary nuts and washers, timber connectors, nails, and other metal fastenings. Bolts and nuts shall conform to ASTM A307.

Broken Stone: Each post shall be supported by a foundation of bagged stone as shown on the standard detail. Recycled concrete aggregate, three-quarter (3/4) inch blend in a burlap bag is acceptable.

PK-366.3. PERSERVATIVE TREATMENT. All wood components shall be pressure preservation treated in strict accordance with the provisions of the AWPA standards. Wood shall be seasoned, either by air-drying or kiln drying, and the moisture content prior to treatment shall be not more than 25%. Wood shall be treated to a net retention of .40 pounds per cubic foot with ACQ (ammoniacal copper quaternary),or a net retention of .21 pounds per cubic foot with Copper Azole preservation, or approved equal. The preservative shall penetrate 2.5 inches or 85% of the sapwood. All details of treatment methods, quality, control and product testing shall be in accordance with the appropriate AWPA standards. In accordance with New York State law, Bills A102 and S7167, CCA (chromated copper arsenate) treatment must not be used. If any other preservative treatment is proposed, the Contractor shall submit documentation that such treatment conforms to the AWPA Standards for treatment of the wood for the intended use. Posts shall be dried at least thirty days after treatment and prior to installation. All fabrication shall be performed prior to treatment. Where field cuts have to be made, the cut ends shall have two coats of concentrated preservative brushed on. Certificate of compliance from the treating plant shall be submitted to the Engineer.

PK-366.4. EXECUTION. All barrier rail shall be assembled and installed in accordance with the Standard Detail. Set all carpentry work accurately to required levels and lines, with all members plumb, true, and accurately cut and fitted. Securely attach carpentry work to substrates by anchoring and fastening as shown on drawings and as required by recognized standards. Do all cutting, fitting, and patching required to properly fit rough carpentry work. Make tight connections between members. Install fasteners without splitting wood. Deep tool marks in wood surfaces shall be considered evidence of poor workmanship and cause for rejection of the pieces affected. Contractor shall backfill surrounding area to provide positive drainage and in accordance with the drawings. All bolts shall be cut and peened as directed by the Engineer.

PK-366.5. SUBMITTALS. All submittals shall be as per the NYC Department of Transportation's Standard Highway Specifications, General Conditions, Section 1.06.31.

WOOD TREATMENT AFFIDAVIT: The Contractor shall provide at his own expense a sworn affidavit as to the type, grade and quality of preservative treatment provided, and the net final retention in pounds per cubic foot of wood impregnated all conforms to the requirements of the specifications.

SHOP DRAWINGS: If necessary, shall be as per the NYC Department of Transportation's Standard Highway Specifications, General Conditions, Section 1.06.13.

PK-366.6. MEASUREMENT AND PAYMENT. The quantity of timber barrier rail to be measured for payment under this item shall be the number of linear feet of each type, measured along the axis of the top railing, from end post to end post, erected at the site to the satisfaction of the Engineer.

The price bid shall be a unit price per linear foot of each type of rail and shall cover the cost of all labor, material, plant, equipment, Insurance, and incidental necessary to complete the work including, but not be limited to, preservative treatment, excavating, backfilling, bagged stone, cut and peen of bolts; all in accordance with the Contract Drawings, the specifications and the directions of the Engineer.

Payment will be made under:

Item No.	Item	Pay Unit
PK-366	TIMBER BARRIER RAIL, ONE RAIL (TYPE C)	L.F.

SECTION PK-454A COMMERCIAL FERTILIZER LOW PHOSPHORUS (SLOW RELEASE)

WORK: Under this Section, the Contractor shall furnish, spread, **COMMERCIAL FERTILIZER LOW PHOSPHORUS (SLOW RELEASE)** and in all areas to be seeded or sodded, in accordance with the plans and specifications, or as directed by the Engineer.

MATERIAL: COMMERCIAL FERTILIZER LOW PHOSPHORUS (SLOW RELEASE) shall have the following composition by weight: Nitrogen (N) shall be min. 7% - max. 10%, of which min. of 50% is slow-release; available Phosphorus (P) shall be min. 1% - max. 2%; and soluble Potash (K) shall be min. 4% - max. 12%.

Fertilizer shall be a *pesticide free* (no weed-and-feed) product such as "Healthy Turf (8-1-9)" as manufactured by Plant Health Care, Inc, Pittsburgh, PA; or Safer Ringer Lawn Restore (10-2-6) as manufactured by Woodstream Corp., Lifitz, PA; or Nutrients Plus (7-2-12) as manufactured by Nutrients Plus, Virginia Beach VA, or approved equal.

All COMMERCIAL FERTILIZER LOW PHOSPHORUS (SLOW RELEASE) shall be delivered in standard size bags, showing weight, analysis, and name of manufacturer. It shall be stored as directed by the Engineer in such a manner that its effectiveness will not be impaired. The Engineer reserves the right to reject on or after delivery, any material which does not, in their opinion, meet these specifications.

METHOD: COMMERCIAL FERTILIZER LOW PHOSPHORUS (SLOW RELEASE) shall be incorporated as specified under Section PK-465 "Sod with Compost" or as directed by the Engineer.

EXTRA MATERIALS: The Contractor shall furnish (supply & deliver only; not install) extra materials and deliver to NYC DPR Borough Maintenance and Operations (NYC DPR M & O) as follows:

400 (Four hundred) pounds of COMMERCIAL FERTILIZER LOW PHOSPHORUS (SLOW RELEASE) in either 25 (Twenty-five) or 40 (Forty) or 50 (Fifty) pound bags. Fertilizer shall meet the Specifications listed under the "MATERIALS" Heading of this Section.

The above materials shall be delivered to the Sector A.P.R.M. or Borough Foreman of Mechanics (ONLY), and a signed receipt (from NYC DPR M & O) shall be submitted to the Engineer to acknowledge NYC DPR M & O receipt of the aforementioned materials.

MEASUREMENT AND PAYMENT: The quantity of **COMMERCIAL FERTILIZER LOW PHOSPHORUS (SLOW RELEASE)** to be paid for under this item shall be the number of **POUNDS** of Commercial Fertilizer incorporated in the work, to the satisfaction of the Engineer.

The price bid shall be a unit price per **POUND** of COMMERCIAL FERTILIZER LOW PHOSPHORUS (SLOW RELEASE) and shall include the cost of all labor, materials, equipment, insurance, and incidental necessary to complete the work of furnishing, spreading, and incorporating the fertilizer; all in accordance with the Contract Drawings, the specifications and directions of the Engineer.

In addition, the Contractor shall deliver EXTRA MATERIALS, as outlined above, to NYC DPR M & O No additional payment shall be made for extra materials. The Contractor shall include the cost in the bid price. Failure to supply EXTRA MATERIALS shall result in the city taking a Total Credit of $100.00 (One hundred dollars), regardless of number of pounds of fertilizer installed.

Furnishing and incorporating Limestone and Topsoil shall be paid for respectively under Item PK-455 "Limestone," and Item PK-38A "Topsoil for Seeded & Sodded Areas."

The price bid shall include all delivery charges.

Payment will be made under:

Item No.	Item	Pay Unit
PK-454A	COMMERCIAL FERTILIZER LOW PHOSPHOROUS (SLOW RELEASE)	POUND

SECTION PK-455 LIMESTONE

WORK: Under this Section, the Contractor shall furnish, spread, and incorporate **LIMESTONE** in all areas to be seeded or sodded in accordance with the plans, specifications, and directions of the Engineer.

MATERIAL: Ground Limestone (Calcium Carbonate) shall have the following analysis: at least fifty percent (50%) shall pass a 200 mesh sieve; at least ninety percent (90%) shall pass a 100 mesh sieve; and one hundred percent (100%) shall pass a 10 mesh sieve. Total carbonates shall not be less than eighty (80) percent or 44.8% Calcium oxide equivalent. Pelleted limestone may be substituted at the discretion of the Engineer, when wind conditions exceed five (5) miles per hour.

The Contractor shall, at the direction and discretion of the Engineer, furnish a certified report of chemical analysis of representative samples of the Limestone which he proposes to use. All samples are to be taken by the Engineer and delivered to the laboratory: the price bid shall include inspection and laboratory charges. Limestone shall not be delivered until samples have been approved by the Engineer, but such approval does not constitute final acceptance of the material. The Engineer reserves the right to reject on or after delivery any material which does not, in his opinion, meet these specifications.

METHOD: Limestone shall be incorporated as specified under the Section PK-465 "Sod with Compost" or as directed by the Engineer.

Lime Requirements (Tons per Acre)		
Soil Texture	**From pH 4.5 to 5.5**	**From pH 5.5 to 6.5**
Sandy and loamy sand	0.5	0.6
Sandy loam	0.8	1.3
Loam	1.2	1.7
Silt loam	1.5	2.0
Clay loam	1.9	2.3
Muck	3.8	4.3

MEASUREMENT AND PAYMENT: The quantity of **LIMESTONE** to be paid for under this item shall be the number of **POUNDS** of Limestone incorporated in the work, to the satisfaction of the Engineer.

The price bid shall be a unit price per **POUND** of Limestone and shall include the cost of all labor, materials, equipment, insurance, and incidentals necessary or required to furnish, spread, and incorporate Limestone and all other work incidental thereto in accordance with the Contract Drawing, the specifications and directions of the Engineer.

Furnishing and incorporating Commercial Fertilizer Low Phosphorous (Slow Release), and Topsoil

for Seeded and Sodded Areas shall be paid for respectively under Item PK-454A "Commercial Fertilizer Low Phosphorous (Slow Release)," and Item PK-38A "Topsoil for Seeded and Sodded Areas."

Payment will be made under:

Item No.	Item	Pay Unit
PK-455	LIMESTONE	POUND

SECTION PK-465 SOD WITH COMPOST

WORK: Under this Section, the Contractor shall place and maintain **SOD WITH COMPOST**, in accordance with the plans, specifications, and directions of the Engineer. In addition the Contractor shall furnish extra materials to NYC DPR M & O, as specified under the heading EXTRA MATERIALS.

The Contractor shall be liable for any damage to property caused by their sodding operations. All areas and construction disturbed shall be restored to their original condition, to the satisfaction of the Engineer.

MATERIALS: Sod shall be a superior sod grown from high quality seed of known origin. Seed is to be inspected by a Certification Agency to assure satisfactory genetic identity and purity, overall high quality, and freedom from noxious weeds at time of harvest.

The blend/mix of grass in sod shall be one of those listed below and shall be harvested from one field to insure a uniform color and texture. Percentages of each grass type are to be within the given range for that type.

65%-85%	TALL FESCUE – One or more of the following varieties: Apache II. Arid 3, Cochise III, Coronado Gold, Falcon IV, Jaguar III, Lancer (SH), Masterpiece, Rebel IV, Rebel Jr.(SH), Rebel Sentry, Rembrandt, Tomahawk E+, RTF or approved equal.
15%-25%	BLUEGRASS – One or more of the following varieties: Able I (SH), Blacksburg, Glade (SH), Moonlight, Midnight, America (SH), Brilliant, Ram (SH), Touchdown (SH), Warren's A-34 (SH), Bristol (SH), Lofts 1757 (SH), or approved equal.
0-10%	PERENNIAL RYEGRASS – One or more of the following varieties: Brightstar II, Manhattan 4, Citation Fore, Elfkin, or approved equal.

NOTE: The cultivars followed by "(SH)" exhibit better shade tolerance than other varieties, under moderate shade.

Sod shall be machine cut to uniform soil thickness of five-eighths inch (5/8"), plus or minus one-quarter inch (1/4") at the time of cutting. Measurement for thickness shall exclude top growth and thatch. Individual pieces of sod shall be cut eighteen inches (18") wide by sixty inches (60") long (7-1/2 sq. ft.) or rolls four feet (4') wide by fifty feet (50') long (200 sq. ft.). Standard sections of sod shall be strong enough to support their own weight and retain their size and shape when suspended vertically. Sod shall not be harvested or transplanted when the moisture content may adversely affect its survival.

Sod shall be harvested, delivered, and transplanted within a period of thirty six (36) hours. Before

cutting, sod shall be mowed uniformly at a height of one and one-half inches (1 ½"). The Engineer may inspect the sod before it is harvested but reserves the right to reject, on or after delivery, any sod which, in their opinion, does not meet with the specifications.

When sod is delivered with monofilament (plastic or similar) backing, the backing shall be removed after rolling out the sod and discarded in an approved manner.

Limestone: shall be as specified under Section PK-455 "Limestone."

The rate of application of limestone per thousand (1,000) square feet shall be as follows, depending on the hydrogen ion concentration (pH) shown by a pH test (test to be provided by the Contractor at no additional cost to the City):

pH	RATE (LBS.)
5.0-5.5	100
5.5-6.0	50
6.0-6.8	25
over 6.8	0

Commercial Fertilizer Low Phosphorus (Slow Release): shall be as specified in Section PK-454A "Commercial Fertilizer Low Phosphorus (Slow Release). "

Two (2) applications of acceptable commercial fertilizer shall be applied by machine, each application at the rate of twenty pounds (20 lbs.) per thousand square feet (1,000 s.f.) or as recommended by the manufacturer. The first application shall be made at the time of installation of sod as specified.

The second application shall be made approximately six (6) months after the first application. This treatment shall take place during the next appropriate fertilizing season, the following Spring or Fall, and shall be subject to the direction of the Engineer and/or Landscape Architect.

The second application shall be applied to the surface only. Incorporation shall be achieved by thoroughly watering the entire area after application. The Contractor shall provide all labor and materials, including water, if not available from NYC sources.

Compost: shall be as specified in Section PK-34 "Compost – Truck Measure."

Compost shall be spread over all areas to be sodded at the rate of one cubic yard (1 c.y.) per thousand square feet (1,000 s.f.).

PREPARATION OF SOD BED: Before any sod is placed and prior to installation of in-ground irrigation, if any, all areas to receive sod shall be thoroughly loosened by rototilling to a depth of six inches (6"). All sticks, stones, roots, vegetation, or other objectionable material which might interfere with the formation of a finely pulverized sod bed shall be removed from the soil and a uniform smooth grade shall be established. Hollows, depressions, and gullies shall be raked smooth and filled with filled with topsoil under Section PK-38A "Topsoil for Seeded and Soded Areas,", if

necessary to achieve a smooth surface. When topsoil that is added under Section PK-38A "Topsoil for Seeded and Soded Areas," is four inches (4") or more in depth, it shall be compacted to the satisfaction of the Engineer.

INSTALLATION: Compost shall be thoroughly incorporated into the top five inches (5") of existing soil. After the compost has been incorporated, Limestone, Commercial Fertilizer Low Phosphorous (Slow Release) shall be worked into the top three inches (3") of soil.

All areas to receive sod shall be compacted using a two hundred pound (200 lb.) roller. The area shall then be thoroughly watered prior to the placement of sod. After drying out sufficiently, the area shall be considered ready to receive the sod. Sod is not to be delivered or placed in a frozen condition. Sod shall be harvested, delivered, and installed within a period of thirty six (36) hours. No Sod shall be harvested, delivered, or placed when, in the opinion of the Engineer, high temperatures may adversely affect the survival of the Sod.

The first row of sod shall be laid in a straight line with subsequent rows placed parallel to and tightly against each other. Lateral joints shall be staggered, each piece butted close together with no voids between the pieces. Care shall be exercised to ensure that the sod is not stretched or overlapped. Where mechanical equipment is used to lay sod, flotation tires are to be used. The sod shall be rolled immediately after placement and then thoroughly watered.

Sod shall be laid a minimum of four (4) weeks prior to the Final Inspection date to allow the sod to thoroughly knit before being turned over to NYC DPR M & O. All dead sod shall be replaced prior to the Final Inspection. All extra sod and/or plant debris remaining from the preparation procedure shall be removed from the site.

WATERING AND MAINTENANCE: The Contractor shall provide all labor and materials including water, if not available from NYC sources, for all watering necessary for rooting of the sod. Soil on sod pads shall be kept moist at all times. In the absence of adequate rainfall, watering shall be performed daily or as often as necessary and in sufficient quantities to maintain moist soil to a depth of at least four inches (4"). Watering shall be done during the heat of the day to prevent wilting.

The first mowing shall not be attempted until the sod is firmly rooted and secure in place. Not more than forty percent (40%) of the grass leaf shall be removed by mowing. The grass height shall be maintained between one and one-half inches (1 ½") and three inches (3"), as directed by the Engineer, until final acceptance on completion of the whole work under this contract. Any dead or unsatisfactory sod shall be removed and replaced at the Contractor's expense prior to the Final Inspection.

SUBMITTALS: All submittals shall be as per the NYC Department of Transportation's Standard Highway Specifications, General Conditions, Section 1.06.31.

The Contractor shall submit a document from the sod source for approval prior to delivery of sod to the site showing the seed composition and percentages of each grass type proposed.

EXTRA MATERIALS: The Contractor shall furnish (supply & deliver only, not install) extra materials and deliver to NYC DPR M & O as follows:

Three (3) – twenty pound (20 lb.) bags of grass seed. The seed mix, for the purpose of EXTRA MATERIALS shall be a turf-type tall fescue blend similar to the mix proposed for sod indicated above as approved by NYC DPR Arboriculture and Horticulture Unit :

The above materials shall be delivered to the NYC DPR Sector A.P.R.M. or Borough Foreman of Mechanics, and a signed receipt shall be submitted to the Engineer to acknowledge M&O. receipt of the aforementioned materials.

MEASUREMENT AND PAYMENT: The quantity of **SOD WITH COMPOST** to be paid for under this Item shall be the number of **SQUARE FEET** of sod placed at the site, to the satisfaction of the Engineer.

The price bid shall be a unit price per **SQUARE FOOT** of sod and shall include the cost of all labor, materials, equipment, insurance, and incidentals necessary or required to prepare the sod bed, dispose of surplus materials, lay, maintain, and water sod; all in accordance with the Contract Drawings, the specifications and directions of the Engineer.

In addition, the Contractor shall deliver EXTRA MATERIALS as outlined above to NYC DPR M & O The Contractor shall include cost in the bid price. Failure to supply EXTRA MATERIALS shall result in the city taking a Total Credit of three hundred sixty dollars ($360.00), regardless of the number of pounds installed.

Furnishing and incorporating Compost-Truck Measure, Limestone, Commercial Fertilizer Low Phosphorous (Slow Release), and Topsoil shall be paid for respectively under Item PK-34 "Compost – Truck Measure," Item PK-455 "Limestone," and Item PK-454A "Commercial Fertilizer Low Phosphorous (Slow Release)."

Payment will be made under:

Item No.	Item	Pay Unit
PK-465	SOD WITH COMPOST	SQUARE FOOT

SECTION PK-476 PLANT MATERIAL

WORK: Under this Section, the Contractor shall excavate all plant pits and furnish, plant, maintain, and replace all **PLANT MATERIAL** specified in the following plant schedule, in accordance with the plans and specifications, or as directed by the Engineer.

The Contractor shall be liable for any damages to property caused by planting operations, and all areas and construction disturbed shall be restored to their original conditions, to the satisfaction of the Engineer.

NAMES: Plant names, size, and grading standards shall conform to those prepared by the American Standard for Nursery Stock (ANSI Z60.1- 2004) unless otherwise specified. No substitution shall be permitted, except with the written permission of the Engineer and the approval of the Design Division.

ASIAN LONGHORNED BEETLE QUARANTINE ZONE REGULATIONS: Due to current Federal, State and NYC DPR policy, the following host species may not be planted in the quarantine zone. Host species are as follows: Acer-Maple, Aesculus-Horsechestnut/Buckeye, Salix-Willow, Betula-Birch, Populus-Poplar, Ulmus-Elm, Albiza-Mimosa/Silk Tree, Celtis-Hackberry, Fraxinus-Ash, Platanus-London Planetree, Sycamore, Sorbus-Mountain Ash.

In addition, Nurseries located within the quarantine zone shall comply with State and Federal Law and all Contractors and/or Subcontractors shall be Certified by the New York State Department of Agriculture and Markets to perform work within the Quarantine Zone (see Submittals section below).

QUALITY: All plants shall be typical of their species or variety. They shall have normal, well-developed branches and vigorous fibrous root systems. They shall be sound, healthy, vigorous plants free from defects, disfiguring knots, sun scald injuries, dead or broken branches, abrasions of the bark, plant diseases, insect eggs, borers, and all forms of infestation. All plant material shall be tagged by the NYC DPR Arboriculture & Horticulture representative who shall reject all plant materials not meeting the above specifications, and trees having damaged or missing leaders, multiple leaders, Y-crotches, or indications of topping or heading back.

All plants shall be nursery-grown, unless otherwise stated. All trees and shrubs shall have been growing under similar climatic conditions as the project site two (2) years prior to the date of the contract. Plants held in storage will be rejected if they show signs of growth during storage. Collected plants shall be taken from a soil favorable to good root development. All collected material shall be clean sound stock, free from decaying stumps.

Herbaceous plants, vines, and groundcover shall be vigorous healthy plants, a minimum two (2) years old, from cuttings, seed, or division, with well-developed root systems and crowns, as specified in the Plant Schedule. Bulbs, corms, tubers and rhizomes shall be firm, non-desiccated, and certified free of disease and viral infection, of the sizes, grades, and varieties indicated in the Plant Schedule.

PLANT SOURCES FOR NATIVE PLANTS ONLY, WHERE APPLICABLE:
Native plant material must be derived from the local genotypes of the native Plants specified. For purposes of this native plant material paragraph, "local" shall mean within 150 miles from the planting site. However, a reasonable effort shall be made to obtain sources of plant material as close to the planting site as possible. All plants must have been grown in a hardiness zone no warmer than Zone 7 or colder than Zone 6 as determined by the USDA Agricultural Research Service, Plant Hardiness Zone Map. Plant quality shall be typical of their species. Plant material should exhibit the range of variation typical of local genotypes of the species as determined by the Engineer. They shall have normal branching and vigorous fibrous root systems. They shall be sound, healthy plants, free from sunscald injuries, or other mechanical injury, plant diseases, insect eggs, borers and all forms of infestations. All plants shall be nursery grown unless otherwise stated. Collected material will not be accepted. Except as may otherwise be specified in this native plant material paragraph, all other sections of this Plant Material specification shall also apply to the Native Plants. The native plant material, subject to availability and adherence to the requirements of this paragraph, may be purchased from the following nurseries or approved equal nurseries as determined by the Landscape Architect or the Capital Arboriculture & Horticulture representative.

Greenbelt Native Plant Center, Staten Island, NY

Pinelands Nursery, Columbus, NJ

Sylva Native, Glen Rock, PA

ORDERING PLANT MATERIALS: The Contractor shall notify the Director of NYC DPR Aboriculture and Horticulture of the unavailability of any tree, shrub, herbaceous plant, or bulb species designated in the contract, as well as provide confirmation to the Engineer of all orders from all sources of supply. Any request for species substitution due to unavailability must be submitted in writing to the Landscape Architect within thirty (30) days of the award of contract. The Contractor must include the names and addresses of at least ten (10) nurseries they have contacted in an effort to locate these species, and the list shall be submitted to the Landscape Architect. All nurseries supplying material shall be required to have a certificate from the Department of Agriculture and Markets, Division of Plant Industry, New York, or any other state where plant material is obtained, certifying that plant material is apparently free of injurious insects and diseases.

DIMENSIONS: A plant shall be dimensioned as it stands in its natural position. Trees up to and including four-inch (4") caliper size shall be measured six inches (6") above ground level. Trees over four inches (4") in caliper size shall be measured twelve inches (12") above ground level. Stock furnished shall be a fair average of the minimum and maximum sizes specified. Larger plants cut back to sizes specified will not be accepted.

Container grown herbaceous plants, groundcover, and vines shall be well rooted in the container size indicated on the Plant Schedule, grown in the container at least one year prior to planting. Bulbs, corms, tubers and rhizomes shall be Top Size, or as indicated on the Plant Schedule. Annual flowering plants shall be vigorous, well rooted, with no indications of disease or stress.

PREPARATION OF PLANTS: All precautions customary in good trade practice shall be taken in preparing plants for moving. Workmanship that fails to meet the highest standards will be rejected. All plants shall be dug immediately before moving unless otherwise specified. All plants shall be dug to retain as many fibrous roots as possible. Balled and burlapped and balled and platformed plants shall have a solid ball of earth of minimum specified size, securely held in place by burlap and stout rope or twine. Oversized or exceptionally heavy plants are acceptable if the size of the ball or spread of roots is proportionately increased, to the satisfaction of the Engineer. Loose, broken, or manufactured balls will be rejected.

DELIVERY: Plants shall be packed, transported, and handled with utmost care to insure adequate protection against injury. When transported in closed vehicles, plants shall receive adequate ventilation to prevent sweating. When transported in open vehicles, plants shall be protected by tarpaulins or other suitable cover material. Balled and burlapped plants shall be set on the ground and the ball covered with soil. Until planted, all material shall be properly maintained and kept adequately moist, to the satisfaction of the Engineer.

INSPECTION: Inspection may be made before digging if the Engineer directs, but no plant material shall be planted by the Contractor until inspected by the Engineer at the site of the work. Plant material will be rejected if delivered with broken or damaged root balls, or if damaged on site by rough handling. All rejected material shall be immediately removed from the site and replaced with acceptable material at no additional cost. Final inspection shall be made upon completion of the contract.

PLANT SCHEDULE

ABBREVIATIONS

Cal. Indicates the caliper of the trunk of the tree.

B & B Indicates tree or shrub to be balled and burlapped.

B.R. Indicates a tree or shrub to be delivered "bare root".

O.C. Indicates "on center" or spacing between plants in all directions.

Ht. Indicates overall height of tree.

Item No. Indicates specific species of plant material, including a description. Example below:
ITEM NO. Genus species
Plant description.

TREES: All trees shall be B&B, major trees branched 6-7' from the ground, minor trees as specified. Sizes shall be as indicated. Rootball size shall correspond to American Association of Nurserymen Standards for the corresponding caliper size. Well-branched top and fibrous root system essential.

SHRUBS: Sizes shall be as indicated. Rootball or container sizes shall correspond to A.A.N. Standards for the corresponding shrub height. Heavy root system, all shrubs shall be well branched to the ground. Sizes shall be as indicated.

VINES, GROUNDCOVER, AND HERBACEOUS PLANTS: Container size shall be as indicated on the plans. All plants shall have vigorous root systems and have grown in the container for at least one year prior to planting.

PLUGS: Plugs shall have vigorous root systems.

ANNUALS: Annual flowering plants shall be vigorous, well rooted, with no indications of disease or stress.

BULBS, CORMS, TUBERS AND RHIZOMES: All bulbs, corms, tubers and rhizomes shall be top size, firm, and non-desiccated.

CONTRACT NO.: P-USTA 1

CONTRACT NAME: USTA UN AVENUE CONNECTOR ROAD RELOCATION

PLANT SCHEDULE:

Item No.	Name and Description
TREES:	
Item No. PK-476A	**Abies concolor, (6'-8' height), B&B, heavy-grade, pyramidal, well-formed branching about 360 degree view, well-developed root system essential.**
Item No. PK-476B	**Acer rubrum, (2" to 2.5" caliper), B&B, tree form, well-formed branching about 360 degree view, branching starting 6' min. above finished grade, well-developed root system essential.**
Item No. PK-476C	**Amelanchier 71noculant71, (8'-10' height), B&B, Multi-stem, well-formed branching about 360 degree view, well-developed root system essential.**
Item No. PK-476D	**Amelanchier laevis, (8'-10' height), B&B, Multi-stem, well-formed branching about 360 degree view, well-developed root system essential.**
Item No. PK-476E	**Carpinus caroliniana, (2.5" to 3" caliper), B&B, tree form, well-formed branching about 360 degree view, well-developed root system essential.**
Item No. PK-476F	**Celtis occidentalis, (2.5" to 3" caliper), B&B, tree form, well-formed branching about 360 degree view, branching starting 6' min. above finished grade, well-developed root system essential.**
Item No. PK-476G	**Cercis 71noculant71, (2.5" to 3" caliper), B&B, tree form, well-formed branching about 360 degree view, well-developed root system essential.**
Item No. PK-476H	**Cercis 71noculant71, (8'-10' height), B&B, Multi-stem, well-formed branching about 360 degree view, well-developed root system essential.**

Item No. PK-476J

Chamaecyparis thyoides (6'-8' height),
B&B, heavy-grade, pyramidal, well-formed branching about 360 degree view, well-developed root system essential.

Item No. PK-476K

Cornus mas (2.5" to 3" caliper),
B&B, tree form, well-formed branching about 360 degree view, well-developed root system essential.

Item No. PK-476L

Cornus mas (8'-10' height),
B&B, Multi-stem, well-formed branching about 360 degree view, well-developed root system essential.

Item No. PK-476M

Gleditsia triacanthos inermis (3" to 3.5" caliper),
B&B, strong leader well-formed branching about 360 degree view, branching starting 6' min. above finished grade, well-developed root system essential.

Item No. PK-476N

Gleditsia triacanthos inermis (2.5" to 3" caliper),
B&B, strong leader well-formed branching about 360 degree view, branching starting 6' min. above finished grade, well-developed root system essential.

Item No. PK-476P

Ilex opaca(6'-8' height),
B&B, heavy-grade, pyramidal, well-formed branching about 360 degree view, well-developed root system essential.

Item No. PK-476Q

Juniperus virginiana (6'-8' height),
B&B, heavy-grade, pyramidal, well-formed branching about 360 degree view, well-developed root system essential.

Item No. PK-476R

Liquidambar styraciflua (2.5" to 3" caliper),
B&B, strong leader well-formed branching about 360 degree view, branching starting 6' min. above finished grade, well-developed root system essential.

Item No. PK-476S

Liriodendron tulipifera (2.5" to 3" caliper),
B&B, strong leader well-formed branching about 360 degree view, branching starting 6' min. above finished grade, well-developed root system essential.

Item No. PK-476T

Nyssa sylvatica (2" to 2.5" caliper),
B&B, tree form, well-formed branching about 360 degree view, branching starting 6' min. above finished grade, well-developed root system essential.

Item No. PK-476V

Picea abies (8'-10' height),
B&B, heavy-grade, pyramidal, well-formed about 360 degree view, well-developed root system essential.

Item No. PK-476W

Picea omorika (8'-10' height),
B&B, heavy-grade, pyramidal, well-formed about 360 degree view, well developed root system essential.

Item No. PK-476X

Pinus strobus (8'-10' height),
B&B, heavy-grade, pyramidal, well-formed about 360 degree view, well developed root system essential.

Item No. PK-476Y

Platanus x acerifolia (2.5" to 3" caliper),
B&B, strong leader well-formed branching about 360 degree view, branching starting 6' min. above finished grade, well-developed root system essential.

Item No. PK-476Z

Quercus bicolor (2.5" to 3" caliper),
B&B, strong leader well-formed branching about 360 degree view, branching starting 6' min. above finished grade, well-developed root system essential.

Item No. PK-476AA

Quercus palustris (2.5" to 3" caliper),
B&B, strong leader well-formed branching about 360 degree view, branching starting 7' above finished grade, well-developed root system essential.

Item No. PK-476BB

Quercus phellos (2.5" to 3" caliper),
B&B, strong leader well-formed branching about 360 degree view, branching starting 6' min. above finished grade, well-developed root system essential.

Item No. PK-476CC

Quercus rubra (2.5" to 3" caliper),
B&B, strong leader well-formed branching about 360 degree view, branching starting 6' min. above finished grade, well-developed root system essential.

Item No. PK-47DD

Taxodium distichum (2.5" to 3" caliper),
B&B, strong leader well-formed branching about 360 degree view, well-developed root system essential.

Item No. PK-476EE

Thuja occidentalis (6'-8' height),
B&B, heavy-grade, pyramidal, well-formed branching about 360 degree view, well-developed root system essential.

Item No. PK-476FF

Tilia 74noculant (2.5" to 3" caliper),
B&B, strong leader well-formed branching about 360 degree view, branching starting 6' min. above finished grade, well-developed root system essential.

PLANTING OPERATIONS:

TIME OF PLANTING: Unless otherwise directed by the Engineer, deciduous material shall be planted from March 1st to May 1st and from October 15th to December 15th. Evergreen material shall be planted from April 1st to May 15th and from September 1st to October 15th, or as approved by the Engineer.

LOCATION: Site characteristics, such as overhead power lines, existing vegetation, and infrastructure items, such as curbs and sidewalks, shall be considered. Trees that grow taller than thirty feet (30') should not be planted directly under power lines. When the design allows, the tree leader shall be offset from power lines.

EXCAVATION OF PLANT PITS: Sizes of plant pits shall be as shown on the planting plan. Planting soil shall be unamended existing soil excavated from the planting pit, unless amendments or topsoil are specified elsewhere in the contract. See Section PK-37A "Topsoil for Planting Pits and Beds" and Section PK-34 "Compost – Truck Measure." When subsurface obstructions are encountered during excavation, the Contractor shall restore the disturbed area to its original condition.

All plant material in all planting applications should be checked to ensure the crown hasn't been buried during containerization or balling and burlapping. If so, the additional soil should be removed and the plant set at the correct finished grade.

Each tree shall be planted in an individual pit as specified. Pits for balled and burlapped material shall be dug three (3) times the size of the root ball in diameter and only deep enough so that the root ball sits on undisturbed subgrade, except in situations where curbs and/or adjacent pavements prevent achievement of planting pit dimensions. Sizes of restricted planting pits (i.e. street trees) shall be at the maximum width allowed, and the same depth as the root ball being planted. Any changes in the planting pit sizes shall be broad enough to accommodate the roots fully extended and only deep enough so that the uppermost roots will be just below the original grade.

No plant pits shall be dug until the proposed locations have been staked on the ground by the Contractor and approved by the Engineer. No plant pits shall be backfilled until planting is approved by the Engineer. **All pits shall have sloped sides unless otherwise directed.** Excavated material, when found to be unsuitable, shall be removed from the site and replaced with topsoil as directed by the Engineer, and paid for under Item 6.02 AAN, "Unclassified Excavation" and Item Pk-37A "Topsoil for Planting Pits and Beds." Any amendment will be as directed and determined by the Landscape Architect.

Extreme care shall be taken not to excavate to a depth greater than required. The subgrade below the root ball shall be tamped slightly to prevent settlement. Where, in the opinion of the Engineer, the subgrade material is unsuitable, the size of the plant pits shall be dug one-half (1/2) wider than normally required. The bottom and sides of the pit shall be backfilled with the existing soil, without amendments, and thoroughly worked into place to remove air pockets and voids.

Planting beds for Shrubs, Vines, Herbaceous, and Groundcover plants shall be excavated to the dimensions and depths indicated on the plans, and backfilled with approved topsoil. Payment for excavation of the planting pits and topsoil is under Item 6.02 AAN, "Unclassified Excavation" and Item Pk-37A "Topsoil for Planting Pits and Beds."

Planting beds that are installed within tree protection zones can only be done in the presence of the NYC DPR Director of the Arboriculture and Horticulture Unit or his designated representative. All excavation and plant installation is to be done by hand, with minimal soil disturbance. No roots over 1" in diameter shall be cut. Plants shall not be placed within (three) 3 feet of the tree trunk.

Mycorrhizal Fungi Innoculant: Shall be applied by means of a three ounce (3 oz.) premeasured dry formulation packet, such as Mycor Tree Saver Transplant®, as manufactured by Plant Health Care, Inc., Pittsburgh, PA; Rhizanova Tree Transplant, as manufactured by Becker Underwood, Inc., Ames, IA; DIEHARD®, as manufactured by Horticultural Alliance and distributed through Atlantic Irrigation, White Plains, NY; or, an approved equivalent.

Packets shall contain, as a minimum: one thousand (1000) live spores of Vesicular-Arbuscular fungi, including: *Entrephosphora 76noculant76*, *Glomus clarum*, *Glomus etunicatum*, and *Glomus sp.;* seventeen million five hundred thousand (17,500,000) live spores of Ectomycorrhizal fungi (*Pisolithus tinctorius)*; Biostimulant ingrediants including *Yucca schidigera* extract; soluble sea kelp extract derived from *Ascophylum nodosum*; humic acids; and acrylamidecopolymer gel as a water absorbent medium. Mycorrhizal fungi inoculant shall be added to the top six to eight inches (6-8") of backfill soil in each planting pit and thoroughly mixed to distribute the inoculant. The material shall be applied according to the following chart:

Size of rootball or container	Ounces per plant
1 gallon	1
2 gal.	2
3 gal.	3
5 gal.	3
7 gal.	3
10 gal.	3
15 gal.	3
20" B&B	6
24" B&B	9
30" B&B	9
36" B&B	12
12" B&B	12

- Water Retention Additive: Water retention additives shall be a granular material for horticultural use that slowly releases water into the root zone such as Terra Sorb®, as manufactured by Plant Health Care, Inc., Pittsburgh, PA; Soil Moist™ as manufactured by JRM Chemical, Inc., Cleveland, OH; Geohumus Professional as manufactured by Geohumus International, or, an approved equivalent.

It shall be applied at the time of planting during a dry planting as defined by Parks and Recreation. When planting trees, each tree shall receive three (3) ounces or amount specified by product instructions. Half should be added at a depth of 8-10 inches and the other half just below the finished surface. When planting shrubs, perennials or annuals, the product should be applied as per product instructions.

Range Fence: When planting trees in lawn areas, the Contractor shall provide range fencing, in an area approximately five feet (5') square, in order to protect the trees from lawn mowers and trimmers. Fence shall be installed according to the method outlined in Section PK-18 "Range Fence – 4'-0" Height".

Planting: Shall be performed by an approved Sub/Contractor. No planting shall be done except in the presence of the Engineer. All material shall be inspected by the Engineer as it is removed from the truck, prior to placing in an approved storage area or the designated planting site. All rejected material shall be removed from the site and replaced with acceptable material at no additional cost to the City.

Until the time of planting, all plant material shall be stored in an approved location, securely fenced and maintained, to the satisfaction of the Engineer, at no additional cost to the City. All plants not planted immediately shall be watered as necessary to maintain optimal health until planting.

Place balled and burlapped material in the prepared planting pit by lifting, and carry it by the rootball. Set the tree or shrub straight and in the center of the pit, with the most desirable side facing toward the predominant view. All material shall set, after settlement, at the same level at which they have grown in the nursery. Care shall be exercised in setting the plants plumb. All ropes, stones, etc. shall be removed from the pit before backfilling. Soil for backfill shall be loose and friable and not frozen or compacted.

Cut and remove rope or wire from the top fifty percent (50%) of the rootball and cut off the burlap back to the edge of the ball. Remove as much woven product and twine as possible. All plastic or synthetic fabric must be removed from the ball at the time of planting. Any wire basket enclosed root ball will need to have at least two-thirds (2/3) of the wire basket cut away from the sides and top of the ball and removed. Remaining lateral wires must be cut to prevent future root interference. Wire must not be galvanized or aluminum wire.

Balled and burlapped plants shall be handled so that the ball will not be loosened. After the soil has been thoroughly firmed under and around the ball, the burlap shall be cut away from the upper half of the ball, and the remaining burlap adjusted to prevent the formation of air pockets. Where directed by the Engineer, the burlap shall be entirely removed. Soil shall be firmed at six to eight inch (6-8") intervals and thoroughly settled with water. Plants with exposed roots shall be placed in the proper position in the center of the pit after the soil in the bottom of the pit has been firmed. Roots shall be arranged in their natural position and existing soil worked in among them, firmed at intervals, and mycorrhizal inoculant and water retention additive worked into the top eight inches (8") of backfill soil in the correct proportions. The plants shall then be thoroughly settled in with water. Care shall be taken to avoid bruising or breaking the roots when tamping the soil. All large and fleshy roots that

are bruised or broken shall be pruned, making a clean cut before planting.

Vines, Herbaceous, and Groundcover plants shall be carefully removed from containers or flats immediately prior to planting and set to the same depths as they were grown in the nursery bed or container, to the correct spacing indicated on the plans. Roots shall be arranged in their natural position and topsoil worked in among them, taking care to avoid bruising or damaging the roots, and fertilizer tablets added to the top four inches (4") of backfill soil in the correct proportion for the respective pot size. No later than one hour after planting, all plants shall be thoroughly settled in with water.

FINISHING SURFACE AFTER BACKFILLING: The Contractor shall cultivate and rake over finished planting areas and shall leave the site in an orderly condition. On level ground or slight slopes, a shallow basin a little larger than the diameter of the plant pit shall be left around each plant, as shown on the plans, or as directed by the Engineer. On steep slopes, the soil on the lower side of the plant shall be graded in such a manner that it will catch and hold water, as shown on the plans, or as directed by the Engineer. Upon completion of planting, all debris and waste material resulting from the planting operation shall be removed from the project area, and the affected area raked and cleaned as necessary.

All work done in preparing shallow basins or grading of plant pits on steep slopes and 78noculant of plant saucers shall be deemed included in the unit price per plant. All berms raised for shallow basins in level or gently sloping grass areas shall be removed at the end of the guarantee period, as well as tree stakes. This topsoil shall be cast evenly over the surrounding grass areas and sod placed over the removed berms under Section PK-465 "Sod with Compost."

See Section PK-35 "Shredded Bark Mulch" for mulch specifications. After the shallow tree basins and plant saucers and shrub beds have been prepared, they shall be mulched, three to four inches (3-4") in depth, inside and along the outside edge of the basins/saucers. Perennial beds shall be mulched to a two inch (2") depth. Mulch for tree pits and shrub and/ or perennial beds shall be paid for under Item PK-35 "Shredded Bark Mulch."

STAKING: All staking shall be done immediately after planting and all staking shall be maintained. Plants shall stand plumb after staking. Stakes shall be of white cedar with bark attached. They may have a maximum allowable deflection of ten percent (10%). Stakes of the dimensions shown on the plans and details shall be placed outside the root ball and shall be driven to the depths indicated on the plans and details.

Stakes shall be fastened to the tree with a suitable length of ¾" wide, flat, woven polypropylene material that is knotted and nailed to the stakes with 1" galvanized roofing nails as directed by the Engineer. Stakes shall be set parallel to the contours, curbs, or walks, unless otherwise directed by the Engineer. Trees shall stand plumb after staking. Stakes and woven polypropylene material shall be removed at the end of one year, unless directed otherwise by the Engineer and shall become the property of the Contractor. At the time the stakes are removed any holes left by the stake shall be filled with topsoil as specified in Section PK-37A "Topsoil for Planting Pits and Beds."

PRUNING: Dead, injured or diseased wood shall be removed in accordance with good horticultural practice. Crossed branches shall be pruned with a sharp tool in such a manner as to preserve and encourage the plant's natural growth form. Do not cut leaders or use wound paint or dressing to treat cut areas. Additional pruning may be required as determined by the Transplanting Subcontractor to preserve aesthetic balance. Any pruning shall preserve the natural character of each plant and shall be done in a manner appropriate to its particular requirements. Any crown pruning shall be done during the transplanting season and may be performed either before or after transplanting, at the direction of NYC DPR Arboriculture & Horticulture representative. If done before transplanting, additional pruning may be required to correct any damage incurred during the transplanting operation. In no case shall leader branches be removed or harmed. The crowns of young trees should not be cut back to compensate for root loss.

EDGING OF PLANTING AREAS: The Contractor shall establish a neat edge where planting areas meet grass areas, as shown on the plan or as directed by the Engineer. Edging shall be done by competent mechanics in a workmanlike manner with a spade or edging tool immediately after all planting and seeding is completed. Particular care shall be exercised in edging to establish good flowing curves, as shown on the plan or as directed by the Engineer. Edging shall be maintained by the Contractor until final acceptance of the contract.

MAINTENANCE: At the time of planting, the soil around each plant shall be thoroughly saturated with water, and as many times later as seasonable conditions require, until final acceptance of the plant materials. Where water is supplied from City hydrants, the Contractor shall obtain a free hydrant permit from the Department of Environmental Protection, Bureau of Consumer Service, (718 595 6699). Permits are issued for a 30 day period, and the Contractor is responsible for keeping the permit current. The permits are available from each borough office. To obtain a permit, the Contractor should bring a copy of their contract and NYC DPR Article 13, indicating exemption from the permit fee, with a general description of the hydrant location(s) they propose to access.

The Contractor must have all tools necessary for using city hydrants in his possession at time of planting to ensure that this specification is adhered to. If conditions do not allow the use of New York City water sources, the Contractor must obtain their own source of water. No direct payment shall be made to water newly installed plants with water obtained from other than city sources, but the cost thereof shall be deemed included in the planting items of the contract.

Maintenance shall include watering, weeding, cultivating, edging, control of insects, fungal infections, and other diseases by means of spraying with an approved insecticide or fungicide, pruning, adjustment and repair of staking, repair of minor washouts and gullies up to twelve inches (12") in depth, and other horticultural operations necessary for the proper growth of all trees, as well as replacement of plants stolen or vandalized prior to the Final Inspection, to a degree judged sufficient for replacement by the Engineer and/or NYC DPR Director of Capital Arboriculture and Horticulture. All planting areas shall be watered, cultivated, and weeded with hoes or other approved tools within the growing season extending from May 1st to October 1st, and such cultivating and weeding shall be repeated at least once a week. Under no condition shall weeds be allowed to attain more than six inches (6") of growth. The cost of such maintenance shall be included in the bid price.

REPLACEMENT: The Contractor shall replace, in accordance with the contract plans and specifications, any plant material that is dead or, in the opinion of the Engineer, in an unhealthy or unsightly condition, and/or have lost their natural shape due to dead branches, excessive pruning, inadequate or improper maintenance, vandalism or other causes, prior to final acceptance. Replacement plants shall be installed in the following planting season. There shall be a two (2) year guarantee on plant material commencing after the final acceptance and the completion of the whole work of this contract. When instructed by the Engineer, plant material that has died after final acceptance shall be replaced in the next appropriate planting season, even when the next planting season falls outside the two (2) year period. Plant material that dies within the two (2) year guarantee period shall be replaced as many times as necessary. The cost of replacements(s) shall be included in the unit price bid for the various furnished items of the contract.

Where vandalism or related causes are agreed by the Engineer as the cause for plant material replacement, the Contractor shall be responsible for *one* replacement during the two-year guarantee period after final acceptance.

Where dead plant material has been identified, whether due to natural causes or vandalism, the Contractor shall remove the dead material, including stakes, and woven polypropylene (if applicable) **within three (3) weeks of notification**

Where dead plant material has been identified, whether due to natural causes or vandalism, the Contractor shall remove the dead plant material, including stakes, burlap, and wire. Earth will be leveled and new topsoil and seed, or appropriate paving material, added at the direction of the Engineer to eliminate any hazardous conditions.

The Contractor shall maintain Replaced Plant Material to the standards outlined in the "Maintenance" section above.

SUBMITTALS: All submittals shall be as per the NYC Department of Transportation's Standard Highway Specifications, General Conditions, Section 1.06.31.

State Certification (in quarantine zone only): The Sub/Contractor shall submit a copy of a valid Compliance Agreement issued by the State of New York Department of Agriculture and Markets, Division of Plant Industry for review and approval prior to performing work.

Invoice: The Sub/Contractor shall submit an original invoice for all plant material delivered to the site. The invoice(s) must be on the Nursery letterhead and must indicate genus and species along with the quantity and size for each individual plant material delivered to the site.

MEASUREMENT AND PAYMENT: The quantity of **PLANT MATERIAL** to be paid for under these Items shall be the number of trees, shrubs, vines, herbaceous plants, groundcovers, and bulbs of each size planted and maintained, in accordance with the plans and specifications, to the satisfaction of the Engineer.

The price bid shall be a unit price per **EACH** tree, shrub, vine, herbaceous plant, groundcover, bulb, corm, tuber, rhizomes or plug of each size, as specified in the Plant Schedule, and shall include the cost of all labor, material, equipment, insurance, and incidentals necessary to furnishing plants, mycorrhizal inoculant, water retention additive, shredded bark mulch for tree pits, shrub beds, and perennial or groundcover beds, inspecting, planting, staking, anchoring, watering, replacing, and maintaining all plant material and all work incidental thereto, in accordance with the Contract Drawings, the specifications and directions of the Engineer.

All plant material substitutions must be pre-approved as described in the paragraph "Ordering Plant Materials" of Section PK-476 "Plant Material." Approved substitutions where size and/or description vary from that listed in the plant schedule included herein may result in a monetary credit due to the City.

Topsoil, excavation, and compost, where called for in the plans or details, will be paid for respectively under Item PK-37A "Topsoil for Planting Pits and Beds," Item 6.002 AAN "Unclassified Excavation" and Item PK-34 "Compost – Truck Measure." Shredded bark mulch shall be paid for under Item PK-35 "Shredded Bark Mulch." Range fencing will be paid for under Item PK-18 "Range Fence 4'-0" Height".

The price of water, regardless of source, is deemed included in the unit price bid. No extra payment will be made for water coming from the Contractor's own source.

Payment will be made under:

Item No.	Item	Pay Unit
PK-476A	PLANT MATERIAL – ABIES CONCOLOR (6' TO 8' HT.)	EACH
PK-476B	PLANT MATERIAL – ACER RUBRUM (2" TO 2.5" CAL.)	EACH
PK-476C	PLANT MATERIAL – AMELANCHIER CANADENSIS (8' TO 10' HT.)	EACH
PK-476D	PLANT MATERIAL – AMELANCHIER LAEVIS (8' TO 10' HT.)	EACH
PK-476E	PLANT MATERIAL – CARPINUS CAROLINIANA (2.5" TO 3" CAL.)	EACH
PK-476F	PLANT MATERIAL – CELTIS OCCIDENTALIS (2.5" TO 3" CAL.)	EACH
PK-476G	PLANT MATERIAL – CERCIS CANADENSIS (2.5" TO 3" CAL.)	EACH
PK-476H	PLANT MATERIAL – CERCIS CANADENSIS (8' TO 10' HT.)	EACH
PK-476J	PLANT MATERIAL – CHAMAECYPARIS THYOIDES (6' TO 8'HT.)	EACH
PK-476K	PLANT MATERIAL – CORNUS MAS (2.5" TO 3" CAL.)	EACH
PK-476L	PLANT MATERIAL – CORNUS MAS (8' TO 10' HT.)	EACH
PK-476M	PLANT MATERIAL – GLEDITSIA TRIACANTHOS (3" TO 3.5" CAL.)	EACH
PK-476N	PLANT MATERIAL – GLEDITSIA TRIACANTHOS (2.5" TO 3" CAL.)	EACH
PK-476P	PLANT MATERIAL – ILEX OPACA (6' TO 8' HT.)	EACH
PK-476Q	PLANT MATERIAL – JUNIPERUS VIRGINIANA (6' TO 8' HT.)	EACH

PK-476R	PLANT MATERIAL – LIQUIDAMBAR STYRACIFLUA (2.5" TO 3" CAL.)	EACH
PK-476S	PLANT MATERIAL – LIRIODENDRON TULIPIFERA (2.5" TO 3" CALIPER)	EACH
PK-476T	PLANT MATERIAL – NYSSA SYLVATICA (2" TO 2.5" CAL.)	EACH
PK-476V	PLANT MATERIAL – PICEA ABIES (8' TO 10' HT.)	EACH
PK-476W	PLANT MATERIAL – PICEA OMORIKA (8' TO 10' HT.)	EACH
PK-476X	PLANT MATERIAL – PINUS STROBUS (8' TO 10' HT.)	EACH
PK-476Y	PLANT MATERIAL – PLATANUS X ACERIFOLIA (2.5" TO 3" CAL.)	EACH
PK-476Z	PLANT MATERIAL – QUERCUS BICOLOR (2.5" TO 3" CALIPER)	EACH
PK-476AA	PLANT MATERIAL – QUERCUS PALUSTRIS (2.5" TO 3" CALIPER)	EACH
PK-476BB	PLANT MATERIAL – QUERCUS PHELLOS (2.5" TO 3" CAL.)	EACH
PK-476CC	PLANT MATERIAL – QUERCUS RUBRA (2.5" TO 3" CAL.)	EACH
PK-47DD	PLANT MATERIAL – TAXODIUM DISTICHUM (2.5" TO 3" CAL.)	EACH
PK-476EE	PLANT MATERIAL – THUJA OCCIDENTALIS (6' TO 8' HT.)	EACH
PK-476FF	PLANT MATERIAL – TILIA AMERICANA (2.5" TO 3" CAL.)	EACH

END OF ADDENDUM NO. 3

This Addendum consists of eighty-two (82) pages.

ATTACH TO CONTRACT DOCUMENTS

THE CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
INFRASTRUCTURE DIVISION
BUREAU OF DESIGN

PROJECT ID: P-USTA1

USTA UN AVENUE
CONNECTOR ROAD
RELOCATION

MERIDIAN ROAD - FROM EXISTING CONNECTOR ROAD TO
QUEENS MUSEUM OF ART
NEW CONNECTOR ROAD - FROM MERIDIAN ROAD TO
UNITED NATIONS AVENUE N

INCLUDING MERIDIAN ROAD WIDENING, NEW CONNECTOR ROAD,
SEWER, WATER MAIN, CATCH BASIN, ELECTRICAL,
TELECOMMUNICATION, STREET LIGHTING,
AND LANDSCAPE WORK

Together With All Work Incidental Thereto
BOROUGH OF QUEENS
CITY OF NEW YORK

ADDENDUM NO. 4

DATED: August 12, 2013

THIS ADDENDUM IS HEREBY MADE A PART OF THE CONTRACT DOCUMENTS

Specifications contained in this Addendum No. 4 cover both Electrical and Telecommunication work at locations shown on the Contract Drawings and as directed by the Engineer.

Items listed in the Bid Schedule with the prefix "E" and "EW-" (e.g. "E260526 A", "E260543 D", EW-900T etc.) shall comply with the requirements of the corresponding alphanumeric sections incorporated herein this Addendum No. 4.

All materials and equipment which are listed in this Addendum by a number in a catalog of any manufacturer or by a manufacturer's grade or trade name are designated for the purpose of describing the article and fixing the standard of the quality and finish. Materials and equipment which are, in the opinion of the Commissioner, the equivalent to that specified, will be accepted.

SPECIAL SPECIFICATIONS

TABLE OF CONTENTS

ITEM NO.	ITEM
E260513 A	MV 5 KV, (3) 1/C #4/0 AWG SHIELDED CABLE
E260513 B	MV 27 KV, (3) 1/C#500 MCM OR 3/C #500 MCM SHIELDED CABLE
E260513 C	MV 5 KV, (3) 1/C #4/0 AWG SHIELDED CABLE SPLICE AND TERMINATION KIT
E260513 D	MV 27 KV,(3)1/C #500 MCM OR 3/C #500 MCM SHIELDED CABLE SPLICE AND TERMINATION KIT
E260513 E	HIGH VOLTAGE TESTING MV 5 KV, (3) 1/C #4/0 AWG CABLE
E260513 F	HIGH VOLTAGE TESTING MV 27 KV, (3) 1/C #500 MCM OR 3/C #500 MCM CABLE
E260513 G	DEMOLITION OF EXISTING MV 5 KV AND 27 KV CABLES
E260526 A	COPPER CLAD GROUND RODS 1" DIA, 10 FEET LONG
E260526 B	BARE #2 AWG COPPER GROUND WIRE
E260526 C	BARE #4/0 AWG COPPER GROUND CABLE
E260543 A	CONCRETE ENCASED DUCTBANK WITH SIX (6) 4" PVC CONDUITS ON ROADWAY
E260543 B	CONCRETE ENCASED DUCTBANK WITH SIX (6) 4" PVC CONDUITS IN LAWN AREA
E260543 C	CONCRETE ENCASED DUCTBANK WITH FOUR (4) 4" PVC CONDUITS ON ROADWAY
E260543 D	CONCRETE ENCASED DUCTBANK WITH FOUR (4) 4" PVC CONDUITS IN LAWN AREA
E260543 E	PREFABRICATED CONCRETE MANHOLE
E260543 F	NYLON PULL ROPE
E260543 G	TRENCHING AND BACKFILLING EARTH – IN LAWN AREA
E260543 H	TRENCHING AND BACKFILLING EARTH – ON ROADWAY
E260543 I	DEMOLITION OF EXISTING CONCRETE ENCASED DUCTBANK
E260543 J	TRENCHING AND BACKFILLING EARTH FOR EXISTING DUCTBANK DEMOLITION
E260553 A	WARNING TAPE
EW-900T	ALLOWANCE FOR TELECOMMUNICATION

SECTION E260513 - MEDIUM-VOLTAGE CABLES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions apply to this Section.

1.2 SUMMARY

A. This Section includes cables and related splices, terminations, and accessories for Medium-Voltage (5 KV, and 27 KV and High Voltage) electrical distribution systems as indicated on contract drawings.

1.3 DEFINITIONS

A. NETA ATS: Acceptance Testing Specification.

1.4 SUBMITTALS

A. Product Data: For each type of cable indicated. Include splices and terminations for cables and cable accessories.

B. Samples: 16-inch (400-mm) lengths of each type of cable indicated.

C. Qualification Data: For Installer and Testing Agency.

D. Material Certificates: For each cable and accessory type, signed by manufacturers.

E. Source quality-control test reports.

F. Field quality-control test reports.

1.5 QUALITY ASSURANCE

A. Installer: Engage a cable splicer, trained and certified by splice material manufacturer, to install, splice, and terminate medium-voltage cable.

B. Testing Agency Qualifications: An independent agency, with the experience and capability to conduct the testing indicated, that is a member company of the International Electrical Testing Association or is a nationally recognized testing laboratory (NRTL) as defined by OSHA in 29 CFR 1910.7, and that is acceptable to authorities having jurisdiction.

1. Testing Agency's Field Supervisor: Person currently certified by the International Electrical Testing Association or the National Institute for Certification in Engineering Technologies to supervise on-site testing specified in Part 3.

C. Source Limitations: Obtain cables and accessories through one source from a single manufacturer.

D. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

E. Comply with IEEE C2 and NFPA 70.

1.6 PROJECT CONDITIONS

A. Interruption of Existing Electric Service: Do not interrupt electric service to facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary electric service according to requirements indicated on contract drawings:

1. Notify Construction Manager no fewer than 15 days in advance of proposed interruption of electric service.
2. Do not proceed with interruption of electric service without Construction Manager's written permission.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Cables:

a. American Insulated Wire Corp.; a Leviton Company.
b. General Cable Technologies Corporation.
c. Kerite Co. (The); Hubbell Incorporated.
d. Okonite Company (The).
e. Pirelli Cables & Systems NA.
f. Rome Cable Corporation.
g. Southwire Company.

2. Cable Splicing and Terminating Products and Accessories:

a. Engineered Products Company.
b. G&W Electric Company.
c. MP Husky.
d. Raychem Corp.; Telephone Energy and Industrial Division; Tyco International Ltd.
e. RTE Components; Cooper Power Systems, Inc.
f. Scott Fetzer Co. (The); Adalet.
g. Thomas & Betts Corporation.
h. Thomas & Betts Corporation/ Elastimold.
i. 3M; Electrical Products Division.

2.2 CABLES

A. Cable Type: MV105.

B. Comply with UL 1072, AEIC CS 8, ICEA S-94-649.

C. Conductor: Copper.

D. Conductor Stranding: Concentric lay, Class B.

E. Strand Filling: Conductor interstices are filled with impermeable compound.

F. Conductor Insulation: Crosslinked polyethylene or Ethylene-propylene rubber.

1. Voltage Rating: 5 kV and 35 kV for 27 kV.
2. Insulation Thickness: 133 percent insulation level.

G. Shielding: Copper tape, helically applied over semiconducting insulation shield.

H. Shielding and Jacket: Corrugated copper drain wires embedded in extruded, chlorinated, polyethylene jacket.

I. Three-Conductor Cable Assembly (to be used only if existing 27 kV cables are three conductor cable assembly): Three insulated, shielded conductors cabled together with ground conductors.

1. Circuit Identification: Color-coded tape (black, red, blue) under the metallic shielding.

J. Cable Armor: Interlocked galvanized steel applied over cable.

K. Cable Jacket: Chlorosulfonated polyethylene, CPE.

L. Cable Sizes: 5 kV Cable size shall be 1 core, #4/0 AWG and 27 kV Cable size shall be 500 MCM 1 Core or 3 Core as per existing.

2.3 SPLICE KITS

A. Connectors and Splice Kits: Comply with IEEE 404; type as recommended by cable or splicing kit manufacturer for the application and as indicated on contract drawings.

B. Splicing Products: As recommended, in writing, by splicing kit manufacturer for specific sizes, ratings, and configurations of cable conductors. Include all components required for complete splice, with detailed instructions.

1. Combination tape and cold-shrink-rubber sleeve kit with rejacketing by cast-epoxy-resin encasement or other waterproof, abrasion-resistant material.
2. Heat-shrink splicing kit of uniform, cross-section, polymeric construction with outer heat-shrink jacket.
3. Premolded, cold-shrink-rubber, in-line splicing kit.
4. Premolded EPDM splicing body kit with cable joint sealed by interference fit of mating parts and cable.

C. Splice Kits Sizes: for 5 kV Cables- 1 Core, #4/0 AWG and for 27 kV Cables- 1 Core or 3 Core 500 MCM as per existing.

2.4 SOLID TERMINATIONS

A. Multiconductor Cable Sheath Seals: Type recommended by seal manufacturer for type of cable and installation conditions, including orientation.

1. Compound-filled, cast-metal body, metal-clad cable terminator for metal-clad cable with external plastic jacket.
2. Cold-shrink sheath seal kit with preformed sleeve openings sized for cable and insulated conductors.
3. Heat-shrink sheath seal kit with phase- and ground-conductor re-jacketing tubes, cable-end sealing boot, and sealing plugs for unused ground-wire openings in boot.
4. Cast-epoxy-resin sheath seal kit with wraparound mold and packaged, two-part, epoxy-resin casting material.

B. Shielded-Cable Terminations: Comply with the following classes of IEEE 48. Insulation class is equivalent to that of cable. Include shield ground strap for shielded cable terminations.

1. Class 1 Terminations: Modular type, furnished as a kit, with stress-relief tube; multiple, molded-silicone rubber, insulator modules; shield ground strap; and compression-type connector.
2. Class 1 Terminations: Heat-shrink type with heat-shrink inner stress control and outer non-tracking tubes; multiple, molded, non-tracking skirt modules; and compression-type connector.
3. Class 1 Terminations: Modular type, furnished as a kit, with stress-relief shield terminator; multiple-wet-process, porcelain, insulator modules; shield ground strap; and compression-type connector.
4. Class 3 Terminations: Kit with stress cone and compression-type connector.

C. Tool Set: Shotgun hot stick with energized terminal indicator, fault-indicator test tool, and carrying case.

2.5 ARC-PROOFING MATERIALS

A. Tape for First Course on Metal Objects: 10-mil- (250-micrometer-) thick, corrosion-protective, moisture-resistant, PVC pipe-wrapping tape.

B. Arc-Proofing Tape: Fireproof tape, flexible, conformable, intumescent to 0.3 inch (8 mm) thick, compatible with cable jacket.

2.6 SOURCE QUALITY CONTROL

A. Test and inspect cables according to ICEA S-97-682 before shipping.

B. Test strand-filled cables for water-penetration resistance according to ICEA T-31-610, using a test pressure of 5 psig (35 kPa).

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install cables according to IEEE 576.

B. Pull Conductors: Do not exceed manufacturer's recommended maximum pulling tensions and sidewall pressure values.

1. Where necessary, use manufacturer-approved pulling compound or lubricant that will not deteriorate conductor or insulation.
2. Use pulling means, including fish tape, cable, rope, and basket-weave cable grips that will not damage cables and raceways. Do not use rope hitches for pulling attachment to cable.

C. Support cables according as necessary and as indicated on contract drawings.

D. Install "Buried-Cable" warning tape 12 inches (305 mm) above underground ductbank.

E. In manholes, handholes train cables around walls by the longest route from entry to exit and support cables at intervals adequate to prevent sag.

F. Install cable splices at pull points within manholes; use standard kits.

G. Install terminations at ends of conductors and seal multiconductor cable ends with standard kits.

H. Install separable insulated-connector components as follows:

1. Protective Cap: At each terminal junction, with one on each terminal to which no feeder is indicated to be connected.
2. Portable Feed-Through Accessory: Three.
3. Standoff Insulator: Three.

I. Arc Proofing: Unless otherwise indicated, arc proof medium-voltage cable at locations not protected by conduit, cable tray, or termination materials such as within manholes. In addition to arc-proofing tape manufacturer's written instructions, apply arc proofing as follows:

1. Clean cable sheath.
2. Wrap metallic cable components with 10-mil (250-micrometer) pipe-wrapping tape.
3. Smooth surface contours with electrical insulation putty.
4. Apply arc-proofing tape in one half-lapped layer with coated side toward cable.
5. Band arc-proofing tape with 1-inch- (25-mm-) wide bands of half-lapped, adhesive, glass-cloth tape 2 inches (50 mm) o.c.

J. Ground shields of shielded cable at terminations, splices, and separable insulated connectors. Ground metal bodies of terminators, splices, cable and separable insulated-connector fittings, and hardware.

K. Identify cables with metal Cable tags according to the Specification Section "Identification for Electrical Systems."

3.2 FIELD QUALITY CONTROL

A. Testing of 5 kV, 27 kV and High Voltage Cables: Engage a qualified cable testing and inspecting agency to perform the following field tests and inspections and prepare test reports:

B. Perform the following field tests after installation of cables and splicing and inspections and prepare test reports for visual inspection of installed cables and cable testing:

1. Perform each visual and mechanical inspection and electrical test stated in NETA ATS. Certify compliance with test parameters.
2. After installing medium-voltage cables and before electrical circuitry has been energized, test for compliance with requirements.

C. Remove and replace malfunctioning units and retest as specified above.

PART 4 – MEASUREMENT AND PAYMENT

4.1 MEASUREMENT

A. The quantity of Medium Voltage (MV) 5 kV, (3) 1/C #4/0 AWG Shielded Cable to be paid for Item E260513 A shall be the actual linear feet of cable installed within underground conduit ductbank and manholes to complete the work, to the satisfaction of the Engineer.

B. The quantity of Medium Voltage (MV) 27 kV, (3) 1/C #500 MCM Shielded Cable or 3/C#500 MCM Shielded Cable to be paid for Item E260513 B shall be the actual linear feet of cable installed within underground conduit ductbank and manholes to complete the work, to the satisfaction of the Engineer.

C. The quantity of Medium Voltage (MV) 5 kV, (3) 1/C #4/0 AWG Shielded Cable Splice and Termination Kit to be paid for Item E260513 C shall be the actual number of Splice and Termination Kits installed to complete the work, to the satisfaction of the Engineer.

D. The quantity of Medium Voltage 27 kV, (3) 1/C #500 MCM Shielded Cable Splice and Termination Kit or 3/C #500 MCM Splice and Termination Kit to be paid for Item E260513 D shall be the actual number of Splice and Termination Kits installed to complete the work, to the satisfaction of the Engineer.

E. The quantity of Medium Voltage (MV) 5 kV, (3) 1/C #4/0 AWG Shielded Cable High Voltage Testing to be paid for Item E260513 E shall be the actual number of high voltage cable testing carried out to complete the work, to the satisfaction of the Engineer.

F. The quantity of Medium Voltage (MV) 5 kV, (3) 1/C #500 MCM or 3/C #500 MCM Shielded Cable High Voltage Testing to be paid for Item E260513 F shall be the actual number of high voltage cable testing carried out to complete the work, to the satisfaction of the Engineer.

G. The quantity of Demolition of existing Medium Voltage 5 kV and 27 kV Cables to be paid for Item E260513 G shall be the actual linear feet of demolition of cables run within underground conduit ductbank and manholes to complete the work, to the satisfaction of the Engineer.

4.2 PRICE TO COVER

A. The Unit price bid per Medium Voltage Cable size (3) 1/C#4/0 AWG Shielded, under Item E260513 A, shall cover cost of furnishing all labor, material, equipment, insurance, and incidentals to complete the work including, but limited to, furnishing and installing cables within underground ductbanks, manholes, installation of cable clamps to cable racks within manholes, required cable pull grips, cable pull equipment, and associated hardware, all in accordance with the contract drawings, the specifications, and the direction of the Engineer.

B. The Unit price bid per Medium Voltage Cable size (3) 1/C#500 MCM Shielded or 3/C#500 MCM Shielded, under Item E260513 B, shall cover cost of furnishing all labor, material, equipment, insurance, and incidentals to complete the work including, but limited to, furnishing and installing cables within underground ductbanks, manholes, installation of cable clamps to cable racks within manholes, required cable pull grips, cable pull equipment, and associated hardware, all in accordance with the contract drawings, the specifications, and the direction of the Engineer.

C. The Unit price bid per Medium Voltage cable size (3) 1/C#4/0 AWG Shielded Splice and Termination Kit, under Item E260513 C, shall cover cost of furnishing all labor, material, equipment, insurance, and incidentals to complete the work including, but limited to, furnishing and installing cable Splice and Termination within existing and new manhole, necessary supports, apply arc proofing tape to cover entire length of exposed cable within manhole, and associated hardware, all in accordance with the drawings, the specifications, and the direction of the Engineer.

D. The Unit price bid per Medium Voltage 27 kV, (3) 1/C#500 MCM Shielded or 3/C #500 MCM Shielded Cable Splice and Termination Kit, under Item E260513 D, shall cover cost of furnishing all labor, material, equipment, insurance, and incidentals to complete the work including, but limited to, furnishing and installing cable Splice and Termination within existing and new manhole, necessary supports, apply arc proofing tape to cover entire length of exposed cable within manhole, and associated hardware, all in accordance with the drawings, the specifications, and the direction of the Engineer.

E. The Unit price bid per Medium Voltage 5 kV, (3) 1/C#4/0 AWG Shielded Cable High Voltage Testing, under Item E260513 E, shall cover cost of furnishing all labor, material, equipment, insurance, and incidentals to complete the work including, but limited to, testing of cable, High Voltage Test Equipment, arranging required power for test equipment, and providing test certificate, all in accordance with the drawings, the specifications, and the direction of the Engineer.

F. The Unit price bid per Medium Voltage 27 kV, (3) 1/C#500 MCM Shielded Cable or 3/C #500 MCM Shielded Cable High Voltage Testing, under Item E260513 F, shall cover cost of furnishing all labor, material, equipment, insurance, and incidentals to complete the work including, but limited to, testing of cable, High Voltage Test Equipment, arranging required power for test equipment, and providing test certificate, all in accordance with the drawings, the specifications, and the direction of the Engineer.

G. The Unit price bid per Demolition of existing MV 5 kV and 27 kV Cables, under, Item E260513 G, shall cover cost of furnishing all labor, material, equipment, insurance, and incidentals to complete the work including, but limited to, cut, cap cable ends and removal of existing cable run within underground conduit ductbank and manholes, and demolition from project site, all in accordance with the drawings, the specifications, and the direction of the Engineer.

Payment will be made under:

Item No.	Item	Pay Unit
E260513 A	MV 5 KV, (3) 1/C #4/0 AWG SHIELDED CABLE	L.F.
E260513 B	MV 27 KV, (3) 1/C#500 MCM OR 3/C #500 MCM SHIELDED CABLE	L.F.
E260513 C	MV 5 KV, (3) 1/C #4/0 AWG SHIELDED CABLE SPLICE AND TERMINATION KIT	EACH
E260513 D	MV 27 KV,(3)1/C #500 MCM OR 3/C #500 MCM SHIELDED CABLE SPLICE AND TERMINATION KIT	EACH
E260513 E	HIGH VOLTAGE TESTING MV 5 KV, (3) 1/C #4/0 AWG CABLE	EACH
E260513 F	HIGH VOLTAGE TESTING MV 27 KV, (3) 1/C #500 MCM OR 3/C #500 MCM CABLE	EACH
E260513 G	DEMOLITION OF EXISTING MV 5 KV AND 27 KV CABLES	L.F.

SECTION E260526 - GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions apply to this Section.

1.2 SUMMARY

A. This Section includes methods and materials for grounding systems and equipment, plus the following special applications:
   1. Underground distribution grounding.

1.3 SUBMITTALS

A. Product Data: For each type of product indicated.

B. Other Informational Submittals: showing grounding features specified in Part 3 "Field Quality Control" Article, including the following:

   1. Ground rods.
   2. Manhole showing Ground Rod and Bonding

C. Qualification Data: For testing agency and testing agency's field supervisor.

D. Field quality-control test reports.

E. Operation and Maintenance Data: For grounding to include the following in emergency, operation, and maintenance manuals:

   1. Instructions for periodic testing and inspection of grounding features at test wells grounding connections NFPA 70B.

      a. Tests shall be to determine if ground resistance or impedance values remain within specified maximums, and instructions shall recommend corrective action if they do not.
      b. Include recommended testing intervals.

1.4 QUALITY ASSURANCE

A. Testing Agency Qualifications: An independent agency, with the experience and capability to conduct the testing indicated, that is a member company of the International Electrical Testing Association or is a nationally recognized testing laboratory (NRTL) as defined by OSHA in 29 CFR 1910.7, and that is acceptable to authorities having jurisdiction.

   1. Testing Agency's Field Supervisor: Person currently certified by the International Electrical Testing Association to supervise on-site testing specified in Part 3.

B. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

C. Comply with UL 467 for grounding and bonding materials and equipment.

PART 2 - PRODUCTS

2.1 CONDUCTORS

A. Bare Copper Conductors:

1. Solid Conductors: ASTM B 3.
2. Stranded Conductors: ASTM B 8.

B. Manufacture List:

a. Southwire Company

b. American Insulated Wire Corp.

c. Rome Cable Corp.

2.2 CONNECTORS

A. Listed and labeled by a nationally recognized testing laboratory acceptable to authorities having jurisdiction for applications in which used, and for specific types, sizes, and combinations of conductors and other items connected.

B. Bolted Connectors for Conductors and Pipes: Copper or copper alloy, bolted pressure-type, with at least two bolts.

1. Pipe Connectors: Clamp type, sized for pipe.

C. Welded Connectors: Exothermic-welding kits of types recommended by kit manufacturer for materials being joined and installation conditions.

D. Manufacture List:

a. Erico

b. Burndy

c. OZ/Gedney

2.3 GROUNDING ELECTRODES

A. Ground Rods: Copper-clad 1" inch Diameter by10 feet in length.

B. Manufacture List:

a. Erico

b. Burndy

c. OZ/Gedney

PART 3 - EXECUTION

3.1 APPLICATIONS

A. Conductors: Install solid conductor for No. 8 AWG and smaller, and stranded conductors for No. 6 AWG and larger, unless otherwise indicated.

B. Underground Grounding Conductors: Install bare copper conductor, size as indicated on contract drawings.

C. Conductor Terminations and Connections:

1. Pipe and Equipment Grounding Conductor Terminations: Bolted connectors.
2. Underground Connections: Welded connectors, except at test wells and as otherwise indicated.
3. Connections to Ground Rods at Test Wells: Bolted connectors.
4. Connections to Structural Steel: Welded connectors.

3.2 GROUNDING UNDERGROUND DISTRIBUTION SYSTEM COMPONENTS

A. Comply with IEEE C2 grounding requirements.

B. Grounding Manholes and Handholes: Install a driven ground rod through manhole or handhole floor, close to wall, and set rod depth so 4 inches (100 mm) will extend above finished floor. If necessary, install ground rod before manhole is placed and provide No. 4/0 AWG bare, copper conductor from ground rod into manhole through a waterproof sleeve in manhole wall. Protect ground rods passing through concrete floor with a double wrapping of pressure-sensitive insulating tape or heat-shrunk insulating sleeve from 2 inches (50 mm) above to 6 inches (150 mm) below concrete. Seal floor opening with waterproof, nonshrink grout.

C. Grounding Connections to Manhole Components: Bond exposed-metal parts such as inserts, cable racks, pulling irons, ladders, and cable shields within each manhole or handhole, to ground rod or grounding conductor. Make connections with No. 2 AWG minimum, stranded, hard-drawn copper bonding conductor. Train conductors level or plumb around corners and fasten to manhole walls. Connect to cable armor and cable shields as recommended by manufacturer of splicing and termination kits.

3.3 INSTALLATION

A. Grounding Conductors: Route along shortest and straightest paths possible, unless otherwise indicated or required by Code. Avoid obstructing access or placing conductors where they may be subjected to strain, impact, or damage.

B. Ground Rods: Drive rods until tops are 2 inches (50 mm) below finished floor or final grade, unless otherwise indicated.

1. Interconnect ground rods with grounding electrode conductor below grade and as otherwise indicated. Make connections without exposing steel or damaging coating, if any.

C. Test Wells: Ground rod driven through drilled hole in bottom of manhole. Manholes are specified in Specification Section "Underground Ducts and Raceways for Electrical and Communication Systems," and shall be at least 12 inches (300 mm) deep, with cover.
1. Use exothermic-welded connectors for outdoor locations, but if a disconnect-type connection is required, use a bolted clamp.

3.4 FIELD QUALITY CONTROL

A. Testing Agency: Engage a qualified testing and inspecting agency to perform the following field tests and inspections and prepare test reports:

B. Perform the following tests and inspections and prepare test reports:

1. After installing grounding system but before permanent electrical circuits have been energized, test for compliance with requirements.
2. Test completed grounding system at each location where a maximum ground-resistance level is specified, at individual ground rods. Make tests at ground rods before any conductors are connected.

a. Measure ground resistance not less than two full days after last trace of precipitation and without soil being moistened by any means other than natural drainage or seepage and without chemical treatment or other artificial means of reducing natural ground resistance.
b. Perform tests by fall-of-potential method according to IEEE 81.

C. Report measured ground resistances that exceed the following values:
1. Manhole Grounds: 10 ohms.

D. Excessive Ground Resistance: If resistance to ground exceeds specified values, notify construction manager promptly and include recommendations to reduce ground resistance.

PART 4 – MEASUREMENT AND PAYMENT

4.1 MEASUREMENT

A. The quantity of Copper Clad Ground Rods, 1" Dia., 10 feet long to be paid for Item E260526 A shall be the actual number of Ground Rods, installed to complete the work, to the satisfaction of the Engineer.

B. The quantity of Bare Copper #2 AWG Ground Wire to be paid for Item E260526 B shall be the actual linear feet of Ground Wire, installed to complete the work, to the satisfaction of the Engineer.

C. The quantity of Bare Copper #4/0 AWG Ground Cable to be paid for Item E260526 C shall be the actual linear feet of Ground Cable, installed to complete the work, to the satisfaction of the Engineer.

4.2 PRICE TO COVER

A. The Unit price bid per Copper Clad Ground Rod 1" Dia, 10 feet long, under Item E260526 A, shall cover cost of furnishing all labor, material, equipment, insurance, and incidentals to complete the work including, but limited to, furnishing and placing ground rod within new manhole, required excavation, providing test well, pipe sleeve, hardware, testing ground resistance and providing test certificate, all in accordance with the contract drawings, the specifications, and the direction of the Engineer.

B. The Unit price bid per Bare Copper #2 AWG Ground Wire, under Item E260526 B, shall cover cost of furnishing all labor, material, equipment, insurance, and incidentals to complete the work including, but limited to, furnishing and installation of ground wire in underground conduit ductbank along with each MV Cable run and within existing and new manhole, required wire pull equipment, wire grip, termination lug and hardware, all in accordance with the contract drawings, the specifications, and the direction of the Engineer.

C. The Unit price bid per Bare Copper #4/0 AWG Ground Cable, under Item E260526 C, shall cover cost of furnishing all labor, material, equipment, insurance, and incidentals to complete the work including, but limited to, furnishing and installation of ground wire in underground conduit ductbank along with each MV Cable run and within existing and new manhole, required wire pull equipment, wire grip, termination lug and hardware, all in accordance with the contract drawings, the specifications, and the direction of the Engineer.

Payment will be made under:

Item No.	Item	Pay Unit
E260526 A	COPPER CLAD GROUND RODS 1" DIA, 10 FEET LONG	EACH
E260526 B	BARE #2 AWG COPPER GROUND WIRE	L.F.
E260526 C	BARE #4/0 AWG COPPER GROUND CABLE	L.F.

SECTION E260543 - UNDERGROUND DUCTS AND RACEWAYS FOR ELECTRICAL AND COMMUNICATION SYSTEMS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions apply to this Section.

1.2 SUMMARY

A. This Section includes the following:

1. Conduit, ducts, and duct accessories for concrete-encased duct banks
2. Manholes.

1.3 DEFINITION

A. RNC: Rigid nonmetallic conduit.

1.4 SUBMITTALS

A. Product Data: For the following:

1. Ductbank materials, including separators and miscellaneous components.
2. Ducts and conduits and their accessories, including elbows, end bells, bends, fittings, and solvent cement.
3. Accessories for manholes.
4. Nylon Pull Rope
5. Cable support Insulators

B. Shop Drawings for Precast or Factory-Fabricated Underground Utility Structures such as Manholes: Include plans, elevations, sections, details, attachments to other work, and accessories, including the following:

1. Duct entry provisions, including locations and duct sizes.
2. Reinforcement details.
3. Frame and cover design and manhole frame support rings.
4. Step details.
5. Grounding details.
6. Dimensioned locations of cable rack inserts, pulling-in and lifting irons, and sumps.
7. Joint details.

C. Duct-Bank Coordination Drawings: Show duct profiles and coordination with other utilities and underground structures.

1. Include plans and sections, drawn to scale, and show bends and locations of expansion fittings.
2. Indicate distance from adjacent underground fire, water, sewage/ drainage lines
3. Drawings shall be signed and sealed by a qualified professional engineer.

D. Product Certificates: For concrete and steel used in precast concrete manholes, as required by ASTM C 858.

E. Qualification Data: For professional engineer and testing agency.

F. Source quality-control test reports.

G. Field quality-control test reports.

1.5 QUALITY ASSURANCE

A. Testing Agency Qualifications: Qualified according to ASTM E 329 for testing indicated.

B. Comply with ANSI C2.

C. Comply with NFPA 70.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Deliver ducts to Project site with ends capped. Store nonmetallic ducts with supports to prevent bending, warping, and deforming.

B. Store precast concrete and other factory-fabricated underground utility structures at Project site as recommended by manufacturer to prevent physical damage. Arrange so identification markings are visible.

C. Lift and support precast concrete units only at designated lifting or supporting points.

1.7 PROJECT CONDITIONS

A. Interruption of Existing Electrical Service: Do not interrupt electrical service to facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary electrical service according to requirements indicated:

1. Notify Construction Manager no fewer than two weeks in advance of proposed interruption of electrical service.
2. Do not proceed with interruption of electrical service without Construction Manager's written permission.

1.8 COORDINATION

A. Coordinate layout and installation of ducts, manholes with final arrangement of other utilities, site grading, and surface features as determined in the field.

B. Coordinate elevations of ducts and duct-bank entrances into manholes with final locations and profiles of ducts and duct banks as determined by coordination with other utilities, underground

obstructions, and surface features. Revise locations and elevations from those indicated as required to suit field conditions and to ensure that duct runs drain to manholes, and as approved by Engineer.

1.9 EXTRA MATERIALS

A. Furnish extra materials described below that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

B. Furnish cable-support stanchions, arms, insulators, and associated fasteners in quantities equal to 5 percent of quantity of each item installed.

PART 2 - PRODUCTS

2.1 CONDUIT

A. RNC: NEMA TC 2, Type EPC-80-PVC, UL 651, with matching fittings by same manufacturer as the conduit, complying with NEMA TC 3 and UL 514B.

2.2 NONMETALLIC DUCTS AND DUCT ACCESSORIES

A. Basis-of-Design Product: Subject to compliance with requirements, provide a comparable product by one of the following:

1. ARNCO Corp.
2. Beck Manufacturing.
3. Cantex, Inc.
4. CertainTeed Corp.; Pipe & Plastics Group.
5. Condux International, Inc.
6. ElecSys, Inc.
7. Electri-Flex Company.
8. IPEX Inc.
9. Lamson & Sessions; Carlon Electrical Products.
10. Manhattan/CDT; a division of Cable Design Technologies.
11. Spiraduct/AFC Cable Systems, Inc.

B. Duct Accessories:

1. Duct Separators: Factory-fabricated rigid PVC interlocking spacers, sized for type and sizes of ducts with which used, and selected to provide minimum duct spacing indicated while supporting ducts during concreting or backfilling.
2. Nylon Pull Rope

2.3 PRECAST MANHOLES

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following and as indicated on contract drawings:

1. Carder Concrete Products.

2. Christy Concrete Products.
3. Elmhurst-Chicago Stone Co.
4. Oldcastle Precast Group.
5. Riverton Concrete Products; a division of Cretex Companies, Inc.
6. Utility Concrete Products, LLC.
7. Utility Vault Co.
8. Wausau Tile, Inc.

B. Comply with ASTM C 858 with structural design loading as specified in Part 3 "Underground Enclosure Application" Article and with interlocking mating sections, complete with accessories, hardware, and features.

1. Windows: Precast openings in walls, arranged to match dimensions and elevations of approaching ducts and duct banks plus an additional 12 inches vertically and horizontally to accommodate alignment variations.

   a. Windows shall be located no less than 6 inches from interior surfaces of walls, floors, or roofs of manholes, but close enough to corners to facilitate racking of cables on walls.
   b. Window opening shall have cast-in-place, welded wire fabric reinforcement for field cutting and bending to tie in to concrete envelopes of duct banks.
   c. Window openings shall be framed with at least two additional No. 4 steel reinforcing bars in concrete around each opening.

2. Duct Entrances in Manhole Walls: Cast end-bell or duct-terminating fitting in wall for each entering duct.

   a. Type and size shall match fittings to duct or conduit to be terminated.
   b. Fittings shall align with elevations of approaching ducts and be located near interior corners of manholes to facilitate racking of cable.

C. Concrete Knockout Panels: 1-1/2 to 2 inches thick, for future conduit entrance and sleeve for ground rod.

D. Joint Sealant: Asphaltic-butyl material with adhesion, cohesion, flexibility, and durability properties necessary to withstand maximum hydrostatic pressures at the installation location with the ground-water level at grade.

2.4 UTILITY STRUCTURE ACCESSORIES

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following and as indicated on contract drawings:

1. Bilco Company (The).
2. Campbell Foundry Company.
3. Carder Concrete Products.
4. Christy Concrete Products.
5. East Jordan Iron Works, Inc.
6. Elmhurst-Chicago Stone Co.
7. McKinley Iron Works, Inc.
8. Neenah Foundry Company.
9. NewBasis.
10. Oldcastle Precast Group.

11. Osburn Associates, Inc.
12. Pennsylvania Insert Corporation.
13. Riverton Concrete Products; a division of Cretex Companies, Inc.
14. Strongwell Corporation; Lenoir City Division.
15. Underground Devices, Inc.
16. Utility Concrete Products, LLC.
17. Utility Vault Co.
18. Wausau Tile, Inc.

B. Manhole Frames, Covers, and Chimney Components: Comply with structural design loading specified for manhole.

1. Frame and Cover: Weatherproof, gray cast iron complying with ASTM A 48/A 48M, Class 30B with milled cover-to-frame bearing surfaces; diameter, as required.

   a. Cover Finish: Nonskid finish shall have a minimum coefficient of friction of 0.50.
   b. Special Covers: Recess in face of cover designed to accept finish material in paved areas.

2. Cover Legend: Cast in. Selected to suit system.
   a. Legend: "NYC ELECTRIC-HV"; "NYC ELECTRIC-MV" and "NYC ELECTRIC-27000V" for duct systems with medium-voltage cables.
   b. Legend: "NYC TELEPHONE" for communications, data, and telephone duct systems.

3. Manhole Chimney Components: Precast concrete rings with dimensions matched to those of roof opening.

   a. Mortar for Chimney Ring and Frame and Cover Joints: Comply with ASTM C 270, Type M, except for quantities less than 2.0 cu. ft. where packaged mix complying with ASTM C 387, Type M, may be used.

C. Manhole Sump Frame and Grate: ASTM A 48/A 48M, Class 30B, gray cast iron.

D. Pulling Eyes in Concrete Walls: Eyebolt with reinforcing-bar fastening insert, 2-inch- diameter eye, and 1-by-4-inch bolt.

1. Working Load Embedded in 6-Inch, 4000-psi Concrete: 13,000-lbf minimum tension.

E. Pulling-In and Lifting Irons in Concrete Floors: 7/8-inch- diameter, hot-dip galvanized, bent steel rod; stress relieved after forming; and fastened to reinforcing rod. Exposed triangular opening.

1. Ultimate Yield Strength: 40,000-lbf shear and 60,000-lbf tension.

F. Bolting Inserts for Concrete Utility Structure Cable Racks and Other Attachments: Flared, threaded inserts of noncorrosive, chemical-resistant, nonconductive thermoplastic material; 1/2-inch ID by 2-3/4 inches deep, flared to 1-1/4 inches minimum at base.

1. Tested Ultimate Pullout Strength: 12,000 lbf minimum.

G. Expansion Anchors for Installation after Concrete Is Cast: Zinc-plated, carbon-steel-wedge type with stainless-steel expander clip with 1/2-inch bolt, 5300-lbf rated pullout strength, and minimum 6800-lbf rated shear strength.

H. Cable Rack Assembly: Steel, hot-dip galvanized, except insulators.

1. Stanchions: T-section or channel; 2-1/4-inch nominal size; punched with 14 holes on 1-1/2-inch centers for cable-arm attachment.
2. Arms: 1-1/2 inches wide, lengths ranging from 3 inches with 450-lb minimum capacity to 18 inches with 250-lb minimum capacity. Arms shall have slots along full length for cable ties and be arranged for secure mounting in horizontal position at any vertical location on stanchions.
3. Insulators: High-glaze, wet-process porcelain arranged for mounting on cable arms.

I. Duct-Sealing Compound: Nonhardening, safe for contact with human skin, not deleterious to cable insulation, and workable at temperatures as low as 35 deg F. Capable of withstanding temperature of 300 deg F without slump and adhering to clean surfaces of plastic ducts, metallic conduits, conduit coatings, concrete, masonry, lead, cable sheaths, cable jackets, insulation materials, and common metals.

J. Portable Manhole Ladders: UL-listed, heavy-duty fiberglass specifically designed for portable use for access to electrical manholes. Minimum length equal to distance from deepest manhole floor to grade plus 36 inches. Provide one each per manhole.

K. Cover Hooks: Heavy duty, designed for lifts 60 lbf and greater. Two required.

2.5 SOURCE QUALITY CONTROL

A. Test and inspect precast concrete utility structures according to ASTM C 1037.

PART 3 - EXECUTION

3.1 UNDERGROUND DUCT APPLICATION

A. Ducts for Electrical Cables over 600 V: RNC, NEMA Type EPC-80 PVC, in concrete-encased duct bank, unless otherwise indicated.

B. Underground Ducts for Telephone, Communications, or Data Utility Service Cables: RNC, NEMA Type EPC-80-PVC, in concrete-encased duct bank, unless otherwise indicated.

C. Manholes: Precast Concrete.

1. Units Located in Roadways and Other Deliberate Traffic Paths by Heavy or Medium Vehicles: H-20 structural load rating according to AASHTO HB 17.
2. Units Not Located in Deliberate Traffic Paths by Heavy or Medium Vehicles: H-10 load rating according to AASHTO HB 17.

3.2 EARTHWORK

A. Excavation and Backfill: Do not use heavy-duty, hydraulic-operated, compaction equipment.

B. Restore surface features at areas disturbed by excavation and reestablish original grades, unless otherwise indicated. Replace removed sod immediately after backfilling is completed.

C. Restore areas disturbed by trenching, storing of dirt, cable laying, and other work. Restore vegetation and include necessary topsoiling, fertilizing, liming, seeding, sodding, sprigging, and mulching.

D. Cut and patch existing pavement in the path of underground ducts and utility structures.

3.3 DUCT INSTALLATION

A. Slope: Pitch ducts a minimum slope of 1:300 down toward manholes and away from buildings and equipment. Slope ducts from a high point in runs between two manholes to drain in both directions.

B. Curves and Bends: Use 5-degree angle couplings for small changes in direction. Use manufactured long sweep bends with a minimum radius of 12.5 feet, both horizontally and vertically, at other locations, unless otherwise indicated.

C. Joints: Use solvent-cemented joints in ducts and fittings and make watertight according to manufacturer's written instructions. Stagger couplings so those of adjacent ducts do not lie in same plane.

D. Duct Entrances to Manholes: Use end bells, spaced approximately 10 inches o.c. for 5-inch ducts, and vary proportionately for other duct sizes.

1. Begin change from regular spacing to end-bell spacing 10 feet from the end bell without reducing duct line slope and without forming a trap in the line.
2. Grout end bells into structure walls from both sides to provide watertight entrances.

E. Sealing: Provide temporary closure at terminations of ducts that have cables pulled. Seal spare ducts at terminations. Use sealing compound and plugs to withstand at least 15-psig hydrostatic pressure.

F. Pulling Cord: Install 100-lbf- test nylon cord in ducts, including spares.

G. Concrete-Encased Ducts: Support ducts on duct separators.

1. Separator Installation: Space separators close enough to prevent sagging and deforming of ducts, with not less than 5 spacers per 20 feet of duct. Secure separators to earth and to ducts to prevent floating during concreting. Stagger separators approximately 6 inches between tiers. Tie entire assembly together using fabric straps; do not use tie wires or reinforcing steel that may form conductive or magnetic loops around ducts or duct groups.
2. Concreting Sequence: Pour each run of envelope between manholes or other terminations in one continuous operation.

    a. Start at one end and finish at the other, allowing for expansion and contraction of ducts as their temperature changes during and after the pour. Use expansion fittings installed according to manufacturer's written recommendations, or use other specific measures to prevent expansion-contraction damage.
    b. If more than one pour is necessary, terminate each pour in a vertical plane and install 3/4-inch reinforcing rod dowels extending 18 inches into concrete on both sides of joint near corners of envelope.

3. Pouring Concrete: Spade concrete carefully during pours to prevent voids under and between conduits and at exterior surface of envelope. Do not allow a heavy mass of concrete to fall directly onto ducts. Use a plank to direct concrete down sides of bank assembly to trench bottom. Allow concrete to flow to center of bank and rise up in middle, uniformly filling all open spaces. Do not use power-driven agitating equipment unless specifically designed for duct-bank application.
4. Reinforcement: Reinforce concrete-encased duct banks where they cross disturbed earth and where indicated. Arrange reinforcing rods and ties without forming conductive or magnetic loops around ducts or duct groups.
5. Forms: Use walls of trench to form side walls of duct bank where soil is self-supporting and concrete envelope can be poured without soil inclusions; otherwise, use forms.
6. Minimum Space between Ducts: 3 inches between ducts and exterior envelope wall, 2 inches between ducts for like services, and 4 inches between power and signal ducts.
7. Depth: Install top of duct bank at least 24 inches below finished grade in areas not subject to deliberate traffic, and at least 30 inches below finished grade in deliberate traffic paths for vehicles, unless otherwise indicated.

8. Warning Tape: Bury warning tape approximately 12 inches above all concrete-encased ducts and duct banks. Align tape parallel to and within 3 inches of the centerline of duct bank. Provide an additional warning tape for each 12-inch increment of duct bank width over a nominal 18 inches. Space additional tapes 12 inches apart, horizontally.

3.4 INSTALLATION OF CONCRETE MANHOLES

A. Precast Concrete Manhole Installation:

1. Comply with ASTM C 891, unless otherwise indicated.
2. Install units level and plumb and with orientation and depth coordinated with connecting ducts to minimize bends and deflections required for proper entrances.
3. Unless otherwise indicated, support units on a level bed of crushed stone or gravel, graded from 1-inch sieve to No. 4 (sieve and compacted to same density as adjacent undisturbed earth.

B. Elevations:

1. Manhole Roof: Install with rooftop at least 15 inches below finished grade.
2. Manhole Frame: In paved areas and trafficways, set frames flush with finished grade. Set other manhole frames 1 inch above finished grade.

C. Drainage: Install drains in bottom of manholes where indicated. Coordinate with drainage provisions indicated.

D. Manhole Access: Circular opening in manhole roof; sized to match cover size.
1. Install chimney, constructed of precast concrete collars and rings to support frame and cover and to connect cover with manhole roof opening. Provide moisture-tight masonry joints and waterproof grouting for cast-iron frame to chimney.

E. Waterproofing: Apply waterproofing to exterior surfaces of manholes after concrete has cured at least three days. Waterproofing materials and installation are specified in Division 07 Section Thermoplastic Sheet Waterproofing." After ducts have been connected and grouted, and before backfilling, waterproof joints and connections and touch up abrasions and scars. Waterproof exterior of manhole chimneys after mortar has cured at least three days.

F. Dampproofing: Apply dampproofing to exterior surfaces of manholes after concrete has cured at least three days. Dampproofing materials and installation are specified in Division 07 Section "Bituminous Dampproofing." After ducts have been connected and grouted, and before backfilling, dampproof joints and connections and touch up abrasions and scars. Dampproof exterior of manhole chimneys after mortar has cured at least three days.

G. Hardware: Install removable hardware, including pulling eyes, cable stanchions, and cable arms, and insulators, as required for installation and support of cables and conductors and as indicated.

H. Field-Installed Bolting Anchors in Manholes: Do not drill deeper than 3-7/8 inches for manholes, for anchor bolts installed in the field. Use a minimum of two anchors for each cable stanchion.

I. Warning Sign: Install "Confined Space Hazard" warning sign on the inside surface of each manhole cover.

3.5 GROUNDING

A. Ground underground ducts and utility structures according to Specification Section "Grounding and Bonding for Electrical Systems."

3.6 FIELD QUALITY CONTROL

A. Perform the following tests and inspections and prepare test reports:

1. Demonstrate capability and compliance with requirements on completion of installation of underground ducts and utility structures.
2. Pull aluminum or wood test mandrel through duct to prove joint integrity and test for out-of-round duct. Provide mandrel equal to 80 percent fill of duct. If obstructions are indicated, remove obstructions and retest.
3. Test manhole grounding to ensure electrical continuity of grounding and bonding connections. Measure and report ground resistance as specified in Specification Section "Grounding and Bonding for Electrical Systems."

B. Correct deficiencies and retest as specified above to demonstrate compliance.

3.7 CLEANING

A. Pull leather-washer-type duct cleaner, with graduated washer sizes, through full length of ducts. Follow with rubber duct swab for final cleaning and to assist in spreading lubricant throughout ducts.

B. Clean internal surfaces of manholes, including sump. Remove foreign material.

PART 4 - MEASUREMENT AND PAYMENT

4.1 MEASUREMENT

A. The quantity of Concrete Encased Ductbank with Six (6) 4" PVC Conduits on roadway to be paid for Item E260543 A shall be the actual linear feet of Concrete Encased Duckbank with six (6) PVC Conduits on Roadway installed to complete the work, to the satisfaction of the Engineer.

B. The quantity of Concrete Encased Ductbank with Six (6) 4" PVC Conduits in lawn area to be paid for Item E260543 B shall be the actual linear feet of Concrete Encased Duckbank with six (6) PVC Conduits under Lawn Area installed to complete the work, to the satisfaction of the Engineer.

C. The quantity of Concrete Encased Ductbank on roadway to be paid for Item E260543 C shall be the actual linear feet of Concrete Encased Duckbank with four (4) 4" PVC Conduits on Roadway installed to complete the work, to the satisfaction of the Engineer.

D. The quantity of Concrete Encased Ductbank in lawn area to be paid for Item E260543 D shall be the actual linear feet of Concrete Encased Duckbank with four (4) 4" PVC Conduits in Lawn Area installed to complete the work, to the satisfaction of the Engineer.

E. The quantity of Prefabricated Concrete Manhole to be paid for Item E260543 E shall be the actual number of Prefabricated Concrete Manholes installed to complete the work, to the satisfaction of the Engineer.

F. The quantity of Nylon Rope to be paid for Item E260543 F shall be the actual linear feet of Nylon Pull Rope, installed to complete the work, to the satisfaction of the Engineer.

G. The quantity of trenching and backfilling earth in lawn area to be paid for Item E260543 G shall be the actual linear feet of trenching and backfilling earth, to complete the work, to the satisfaction of the Engineer.

H. The quantity of trenching and backfilling earth on roadway to be paid for Item E260543 H shall be the actual linear feet of trenching and backfilling earth, to complete the work, to the satisfaction of the Engineer.

I. The quantity of demolition of existing concrete encased ductbank to be paid for Item E260543 I shall be the actual linear feet of ductbank demolition, to complete the work, to the satisfaction of the Engineer.

J. The quantity of trenching and backfilling earth for demolition for existing underground ductbank to be paid for under Item E260543 J shall be the actual linear feet of trenching and backfilling earth, to complete work, to the satisfaction of the Engineer.

4.2 PRICE TO COVER

A. The Unit price bid per Concrete Encased Ductbank with six (6) 4" PVC Conduits on roadway, under Item E260543 A, shall cover cost of furnishing all labor, material, equipment, insurance, and incidentals to complete the work including, but limited to, furnishing six (6) PVC Sch 80 Conduits, concrete, conduit spacers, conduits end bells at conduits entering manholes and placing, associated hardware, and installation of 1" thick steel plate along ductbank run, all in accordance with the contract drawings, the specifications, and the direction of the Engineer.

B. The Unit price bid per Concrete Encased Ductbank with six (6) 4" PVC Conduits in lawn area, under Item E260543 B, shall cover cost of furnishing all labor, material, equipment, insurance, and incidentals to complete the work including, but limited to, furnishing six (6) PVC Sch 80 Conduits, concrete, conduit spacers, conduits end bells at conduits entering manholes and placing, and associated hardware, all in accordance with the contract drawings, the specifications, and the direction of the Engineer.

C. The Unit price bid per Concrete Encased Ductbank with four (4) 4" PVC Conduits on roadway, under Item E260543 C, shall cover cost of furnishing all labor, material, equipment, insurance, and incidentals to complete the work including, but limited to, furnishing four (4) PVC Sch 80 Conduits, concrete, conduit spacers, conduits end bells at conduits entering manholes and placing, associated hardware and 1" thick steel plate run along ductbank, all in accordance with the contract drawings, the specifications, and the direction of the Engineer.

D. The Unit price bid per Concrete Encased Ductbank with four (4) 4" PVC Conduits in lawn area, under Item E260543 D, shall cover cost of furnishing all labor, material, equipment, insurance, and incidentals to complete the work including, but limited to, furnishing four (4) PVC Sch 80 Conduits, concrete, conduit spacers, conduits end bells at conduits entering manholes and placing, and associated hardware, all in accordance with the contract drawings, the specifications, and the direction of the Engineer.

E. The Unit price bid per Prefabricated Concrete Manhole, under Item E260543 E, shall cover cost of furnishing all labor, material, equipment, insurance, and incidentals to complete the work including, but limited to, furnishing prefabricated manhole, cast iron cover, manhole identification stainless steel tag, cable stanchions, cable racks, floor cable supports, wall mounted utility grade insulated cable supports for MV cables only, and placing, associated hardware and includes trenching and backfilling earth, all in accordance with the contract drawings, the specifications, and the direction of the Engineer.

F. The Unit price bid per Nylon Pull Rope, under Item E260543 F, shall cover cost of furnishing all labor, material, equipment, insurance, and incidentals to complete the work including, but limited to, furnishing Nylon Pull Rope, and installing within each conduit, providing associated pull grip and pull equipment, all in accordance with the contract drawings, the specifications, and the direction of the Engineer.

G. The Unit price bid per Trenching and backfilling earth in lawn area, under Item E260543 G, shall cover cost of furnishing all labor, sheeting material, equipment for excavation and earth backfilling compaction equipment and tools, insurance, and incidentals to complete the work including, but limited to excavating the utility trench to the depth and width required for concrete encased ductbank installation in lawn area, and provide loose fine sand for backfilling, associated hardware and dewatering equipment, providing top soil and seeding for trenches in lawn area, all in accordance with the contract drawings, the specifications, and the direction of the Engineer.

H. The Unit price bid per Trenching and backfilling earth under on roadway, under Item E260543 H, shall cover cost of furnishing all labor, sheeting material, equipment for excavation and earth backfilling compaction equipment and tools, insurance, and incidentals to complete the work including, but limited to excavating the utility trench to the depth and width required for concrete encased ductbank installation on roadway, and provide loose fine sand for backfilling, associated hardware and dewatering equipment, providing top soil for trenches in lawn area, all in accordance with the contract drawings, the specifications, and the direction of the Engineer.

I. The Unit price bid per Demolition of existing concrete encased ductbank, under Item E260543 I, shall cover cost of furnishing all labor, material, equipment, insurance, and incidentals to complete the work including, but limited to, removal and demolition from project site existing

concrete encased conduit ductbank, and associated accessories, all in accordance with the contract drawings, the specifications, and the direction of the Engineer.

J. The Unit price bid per Trenching and backfilling earth for demolition of existing underground ductbank, under Item E260543 J, shall cover cost of furnishing all labor, sheeting material, equipment for excavation and earth backfilling compaction equipment and tools, insurance, and incidentals to complete the work including, but limited to excavating the utility trench to the depth and width required for concrete encased ductbank removal, providing additional earth for backfilling trench, and providing dewatering equipment, providing top soil for trenches in lawn area, all in accordance with the contract drawings, the specifications, and the direction of the Engineer.

Payment will be made under:

Item No.	Item	Pay Unit
E260543 A	CONCRETE ENCASED DUCTBANK WITH SIX (6) 4" PVC CONDUITS ON ROADWAY	L.F.
E260543 B	CONCRETE ENCASED DUCTBANK WITH SIX (6) 4" PVC CONDUITS IN LAWN AREA	L.F.
E260543 C	CONCRETE ENCASED DUCTBANK WITH FOUR (4) 4" PVC CONDUITS ON ROADWAY	L.F.
E260543 D	CONCRETE ENCASED DUCTBANK WITH FOUR (4) 4" PVC CONDUITS IN LAWN AREA	L.F.
E260543 E	PREFABRICATED CONCRETE MANHOLE	EACH
E260543 F	NYLON PULL ROPE	L.F.
E260543 G	TRENCHING AND BACKFILLING EARTH – IN LAWN AREA	L.F
E260543 H	TRENCHING AND BACKFILLING EARTH – ON ROADWAY	L.F.
E260543 I	DEMOLITION OF EXISTING CONCRETE ENCASED DUCTBANK	L.F.
E260543 J	TRENCHING AND BACKFILLING EARTH FOR EXISTING DUCTBANK DEMOLITION	L.F.

SECTION E260553 - IDENTIFICATION FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Identification for raceways.
2. Identification for conductors.
3. Underground-line warning tape.
4. Warning labels and signs.
5. Instruction signs.
6. Miscellaneous identification products.

1.3 SUBMITTALS

A. Product Data: For each electrical identification product indicated.

B. Samples: For each type of label and sign to illustrate size, colors, lettering style, mounting provisions, and graphic features of identification products.

C. Identification Schedule: An index of nomenclature of electrical equipment and system components used in identification signs and labels.

1.4 QUALITY ASSURANCE

A. Comply with ANSI A13.1 and IEEE C2.

B. Comply with NFPA 70.

C. Comply with 29 CFR 1910.144 and 29 CFR 1910.145.

D. Comply with ANSI Z535.4 for safety signs and labels.

E. Adhesive-attached labeling materials, including label stocks, laminating adhesives, and inks used by label printers, shall comply with UL 969.

1.5 COORDINATION

A. Coordinate identification names, abbreviations, colors, and other features with requirements in other Sections requiring identification applications, Drawings, Shop Drawings, manufacturer's wiring diagrams, and the Operation and Maintenance Manual; and with those required by codes, standards, and 29 CFR 1910.145. Use consistent designations throughout Project.

B. Coordinate installation of identifying devices with completion of covering and painting of surfaces where devices are to be applied.

PART 2 - PRODUCTS

2.1 POWER RACEWAY IDENTIFICATION MATERIALS

A. Comply with ANSI A13.1 for minimum size of letters for legend and for minimum length of color field for each raceway size.

B. Colors for exposed Raceways ends Carrying Circuits at More Than 600 V within manholes:

1. Black letters on an orange field.
2. Legend: "DANGER CONCEALED HIGH VOLTAGE WIRING" with 3-inch- (75-mm-) high letters on 20-inch (500-mm) centers.

C. Tape and Stencil for Raceways Carrying Circuits More Than 600 V: 4-inch- (100-mm-) wide black stripes on 10-inch (250-mm) centers diagonally over orange background that extends full length of raceway or duct and is 12 inches (300 mm) wide. Stop stripes at legends.

D. MV Cable (5 kV, 27 kV, High Voltage) Metal Tags: 2 by 2 by 0.05 inch (50 by 50 by 1.3 mm), with stamped legend, punched for use with self-locking cable tie fastener.

E. Write-On Tags: Polyester tag, 0.015 inch thick, with corrosion-resistant grommet and cable tie for attachment to conductor or cable.
1. Marker for Tags: Machine-printed, permanent, waterproof, black ink marker recommended by printer manufacturer.

F. Self-Adhesive Vinyl Labels: Preprinted, flexible label laminated with a clear, weather- and chemical-resistant coating and matching wraparound adhesive tape for securing ends of legend label.

G. Self-Adhesive Vinyl Tape: Colored, heavy duty, waterproof, fade resistant; 2 inches (50 mm) wide; compounded for outdoor use.

2.2 Medium Voltage (5 kV, 27 kV, High Voltage CABLE IDENTIFICATION MATERIALS

A. Comply with ANSI A13.1 for minimum size of letters for legend and for minimum length of color field for each raceway and cable size.

B. Metal Tags: Brass, 2 by 2 by 0.05 inch (50 by 50 by 1.3 mm), with stamped legend, punched for use with self-locking cable tie fastener.

2.3 UNDERGROUND-LINE WARNING TAPE

A. Tape:

1. Recommended by manufacturer for the method of installation and suitable to identify and locate underground electrical and communications utility lines and ductbanks.
2. Printing on tape shall be permanent and shall not be damaged by burial operations.

3. Tape material and ink shall be chemically inert, and not subject to degrading when exposed to acids, alkalis, and other destructive substances commonly found in soils.
4. Tape Size: Minimum 3" Wide
5. Tape Color:
    a) for identification of MV Cables (5 kv, 27 kV and High Voltage) underground ductbank run: Red with black letters
    b) for identification of telecommunication cables underground ductbank run: Orange with black letters
6. Products: supply from one of the following manufacture:
    a) Preco
    b) Terra Tape from Reef Industries, Inc.
    c) Brimar

B. Color and Printing:

1. Comply with ANSI Z535.1 through ANSI Z535.5.
2. Inscriptions for Red-Colored Tapes: ELECTRIC LINE, 5 kV, 27 kV HIGH VOLTAGE .
3. Inscriptions for Orange-Colored Tapes: TELEPHONE CABLE, COMMUNICATIONS CABLE.

2.4 WARNING LABELS AND SIGNS

A. Comply with NFPA 70 and 29 CFR 1910.145.

2.5 MISCELLANEOUS IDENTIFICATION PRODUCTS

A. Fasteners for Labels and Signs: Self-tapping, stainless-steel screws or stainless-steel machine screws with nuts and flat and lock washers.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Verify identity of each item before installing identification products.

B. Location: Install identification materials and devices at locations for most convenient viewing without interference with operation and maintenance of equipment.

C. Apply identification devices to surfaces that require finish after completing finish work.

D. Underground-Line Warning Tape: During backfilling of trenches install continuous underground-line warning tape directly above line at 6 to 8 inches below finished grade. Use multiple tapes where width of multiple lines installed in a common trench concrete envelope exceeds 16 inches overall.

3.2 IDENTIFICATION SCHEDULE

A. Power-Circuit Conductor Identification, More than 600 V: For conductors in vaults, pull and junction boxes, manholes, and handholes, nonmetallic plastic tag holder with adhesive-backed phase tags, and a separate tag with the circuit designation.

B. Install instructional sign including color-code for grounded and ungrounded conductors using adhesive-film-type labels.

C. Locations of Underground Lines: Identify with underground-line warning tape for power, communication, and optical fiber cable.
   1. Install underground-line warning tape for cables in earth above underground raceway/ ductbank.

PART 4 – MEASUREMENT AND PAYMENT

4.1 MEASUREMENT

A. The quantity of Warning Tape to be paid for Item E260553 A shall be the actual linear feet of Warning Tape installed to complete the work, to the satisfaction of Engineer.

4.2 PRICE TO COVER

A. The Unit price bid per Warning Tape, under Item E260553 A, shall cover cost of furnishing all labor, material, equipment, insurance, and incidentals to complete the work including, but limited to, furnishing and placing over underground ductbank runs, all in accordance with the contract drawings, the specifications, and the direction of the Engineer.

Payment will be made under:

Item No.	Item	Pay Unit
E260553 A	WARNING TAPE	L.F.

SECTION EW-900T
Allowance for Telecommunication

Under this Section, the Contractor will be paid for Telecommunication work deemed necessary by DDC's Assistant Commissioner. The telecommunication work may include, but are not be limited to:

a) Furnish and Install new telephone cables (same as existing) within new underground ductbank.

b) Cut, disconnect and remove entirely existing telephone cables within existing underground telecom ductbank to be abandoned/ removed under this project and remove from project site.

c) Furnish and install Telephone Cables Splice and Termination between new telephone cables installed to existing telephone cables run in underground ductbank.

d) Test, commission new telephone cables installed and energize telephone cable lines. Provide all test reports to DDC for review and records.

All above works shall be carried out as per contract drawings, utility company Verizon Telephone Standards requirements and as per Telecommunication National Standards. Provide all equipment, tools, testing equipment, required power, coordinate and inform affected areas during existing telephone system shutdown time. Work required mobilization, demobilization and remobilization of workers based on nature of construction work.

Such Work shall be paid for under this item in accordance with the requirements of Article 26 in the Standard Construction Contract.

Payment made under this Fixed Sum item shall cover the cost of all labor, materials, plant, equipment, insurance, and incidentals necessary to the work as ordered by DDC's Assistant Commissioner of Construction.

No guarantee is given that this allowance item will in fact be required in this contract. The estimated "fixed sum" amount shown in the Bid Schedule is included in the total bid solely to ensure a method of payment for any work performed by the Contractor, as directed by DDC's Assistant Commissioner of Construction.

Payment will be made under:

Item No.	Item	Pay Unit
EW-900T	ALLOWANCE FOR TELECOMMUNICATION	F.S.

END OF ADDENDUM NO. 4
This Addendum Consists of Thirty-two (32) Pages

THE CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF INFRASTRUCTURE

AUGUST 15, 2013

ADDENDUM NO. 5 **PROJECT ID: P-USTA1**

USTA UN AVENUE
CONNECTOR ROAD
RELOCATION

MERIDIAN ROAD – FROM EXISTING CONNECTOR ROAD TO QUEENS MUSEUM OF ART
NEW CONNECTOR ROAD – FROM MERIDIAN ROAD TO UNITED NATIONS AVENUE N

INCLUDING MERIDIAN ROAD WIDENING, NEW CONNECTOR ROAD, SEWER, WATER MAIN, CATCH BASIN, ELECTRICAL, TELECOMMUNICATION, STREET LIGHTING, AND LANDSCAPE WORK

Together With All Work Incidental Thereto
BOROUGH OF QUEENS
CITY OF NEW YORK

SPECIFICATIONS FOR HANDLING, TRANSPORTATION AND DISPOSAL OF NONHAZARDOUS AND POTENTIALLY HAZARDOUS CONTAMINATED MATERIALS

This Addendum is issued for the purpose of amending the requirements of the Contract Documents and hereby made part of said Contract Documents to the same extent as if it was originally included herein.

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Attachments

1. New York City Department of Environmental Protection Limitations for Discharge to Storm, Sanitary / Combined Sewers
2. Applicable Regulations
3. Definitions
4. Environmental Engineering 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:

ITEM NUMBER	ITEM	PAYMENT UNIT
8.01 C1	Handling, Transporting, and Disposal of Non-Hazardous Contaminated Soil	Tons

ITEM 8.01 C2 SAMPLING AND TESTING OF CONTAMINATED/ POTENTIALLY HAZARDOUS SOIL FOR DISPOSAL PARAMETERS

8.01 C2.1 WORK TO INCLUDE

A. Description

The work shall consist of collecting and analyzing representative soil samples for parameters typically requested by the disposal facilities.

B. Sampling and Laboratory Analysis

1. At least thirty (30) days prior to the commencement of work, the Contractor's independent Environmental Consultant must submit a Soil Sampling Plan/Field Sampling Plan (SSP/FSP) 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:

ITEM NUMBER	ITEM	PAYMENT UNIT
8.01 C2	Sampling and Testing of Contaminated/ Potentially Hazardous Soil for Disposal Parameters	Set

ITEM 8.01 H HANDLING, TRANSPORTING, AND DISPOSAL OF HAZARDOUS SOILS

8.01 H.1 WORK TO INCLUDE

General: This work shall consist of the handling, transportation and disposal of soils or materials that are listed as hazardous wastes or exhibit any of the characteristics of a hazardous waste, namely ignitability, corrosivity, reactivity, and toxicity, as defined in 6 NYCRR Part 371, Section 371.3 and 40 CFR Section 261. For the purpose of this specification, soils shall be defined as any materials excavated below the pavement and base for pavement.

Contaminated soils determined to be hazardous under Item 8.01 C2 shall be handled, transported, and disposed of under Item 8.01 H in accordance with the specifications herein.

The independent Environmental Consultant retained by the Contractor, as specified under Item 8.01 S – Health and Safety, shall conduct sampling and analysis of above soils to determine which soils are hazardous.

All work under Item 8.01 H shall be performed under the direct supervision of the Contractor's Environmental Consultant, as approved by the Program 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 H1.3 CONSTRUCTION DETAILS

A. Material Handling

1. The Contractor shall institute procedures to protect site personnel and the public from the non-hazardous and hazardous materials as described in Section 8.01 S - Health and Safety.

2. The Contractor shall handle hazardous soil as approved in the MHP.

3. Stockpiled materials at the temporary TSD facility shall be handled according to the facility requirements but at a minimum: shall be drummed or placed on and covered with polyethylene to protect against erosion and leaching into surrounding soils, the stockpile area shall be graded for positive drainage away from the pile, and shall be labeled while being held for sampling prior to permanent disposal.

4. Provide any dewatering that is necessary to complete the work. Water shall be disposed of in accordance with Item 8.01 W1 – Removal, Treatment and Discharge/Disposal of Contaminated Water.

B. Off-Site Transportation and Disposal

1. The Contractor shall furnish all labor, equipment and supplies required to transport hazardous materials from the work area to the off-site TSD facility(ies) and to acquire any other items and services required for transporting hazardous materials for storage and/or disposal at an approved off-site facility.

2. Weight Measurement

a. The Contractor shall submit the name and location of the facility where an off-site scale is located. The Contractor shall also submit a plan to the DDC for review outlining procedures on controlling trucks leaving the work site and on-route to the off-site scale. The Contractor shall be responsible for tracking all materials/vehicles from the site to the off-site scale.

b. The Contractor shall provide to the DDC certified tare and gross weight slips for each load received at the accepted facility which shall be attached to each returned manifest.

3. General

a. Manifests: The Contractor shall organize and maintain the material shipment records/manifests required by law.

b. The Contractor shall coordinate the schedule for truck arrival and material deliveries at the job site to meet the approved project schedule. The schedule shall be compatible with the availability of equipment and personnel for material handling at the job site.

c. The Contractor shall inspect all vehicles leaving the project site to ensure that hazardous soils adhering to the wheels or under carriage are removed prior to the vehicle leaving the site.

d. The Contractor shall obtain letters of commitment from the waste haulers and the TSD facility to haul and accept shipments. The letter shall indicate agreement to handle and accept the specified estimated quantities and types of material during the time period specified in the project schedule and any time extension as deemed as necessary.

4. Hauling

a. The Contractor shall not deliver waste to any facility other than the TSD facility(ies) listed on the shipping manifest.

b. The Contractor shall coordinate manifesting, placarding, of shipments, and vehicle decontamination. All quantities shall also be measured and recorded upon arrival at the TSD facility. If any deviation between the two records occurs, the matter is to be reported immediately to the DDC and to be resolved by the Contractor to the satisfaction of the DDC.

c. The Contractor shall be held responsible, at its own expense, for any and all actions necessary to remedy situations involving material spilled in transit or mud and dust tracked off-site.

d. The Contractor shall ensure that trucks are protected against contamination by properly covering and lining them with compatible material (such as polyethylene) or by decontaminating them prior to any use other than hauling hazardous materials.

e. The Contractor shall be responsible for inspecting the access routes for road conditions, overhead clearance, and weight restrictions.

f. The Contractor shall only use the transporter(s) identified in the MHP for the performance of work. Only a transporter with a current Part 364 Waste Transporter Permit from the DEC may transport this material. Any use of substitute or additional transporters must have previous written approval from the DDC at no additional cost to the City.

g. The Contractor shall develop, document, and implement a policy for accident prevention.

h. The Contractor shall not combine hazardous materials from other projects with material from this project.

i. **The Contractor shall obtain for the City an EPA hazardous waste generator identification number and a representative of Program 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 <u>all fees</u> associated with the generation and disposal of all excavated hazardous waste. These fees include, but are not limited to, the <u>New York State Department of Finance and Taxation (DFT) quarterly fees</u> for hazardous waste and the <u>New York State DEC annual hazardous waste regulatory fee program</u>. 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:

ITEM NUMBER	ITEM	PAYMENT UNIT
8.01 H	Handling, Transporting, and Disposal of Hazardous Soils	Tons

ITEM 8.01 S HEALTH AND SAFETY

8.01 S.1 WORK TO INCLUDE

Health and Safety Requirements

A. Scope of Work

It is the Contractor's responsibility to stage and conduct his work in a safe manner. The Contractor shall implement a Health and Safety Plan (HASP) for contaminated/hazardous soil intrusive activities as set forth in Occupational Safety and Health Administration (OSHA) Standards 1910.120 and 1926.650-652. The Contractor shall ensure that all workers have at a minimum hazard awareness training. The Contractor shall segregate contaminated work area in secured exclusion zones. These zones shall limit access to Contractor personnel specifically trained to enter the work area. The exclusion zone shall be set up to secure the area from the public and untrained personnel. The project health and safety program shall apply to all construction personnel including persons entering the work area. In addition, the Contractor shall protect the public from on-site hazards, including subsurface contaminants associated with on-site activities. The HASP shall be signed off by a Certified Industrial Hygienist and reviewed by Program 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:

ITEM NUMBER	ITEM	PAYMENT UNIT
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. <u>On-site treatment and discharge into New York City combined sanitary/storm sewers.</u>

1. Regulations: The Contractor shall comply with all applicable regulations. This includes but may not be limited to:

   Title 15-New DEP Sewer Use Regulations.

2. Permits: The Contractor is solely responsible to obtain all necessary and appropriate Federal, State and Local permits and approvals. The Contractor will be responsible for performing all and any system pilot tests required for permit approval. This includes but may not be limited to:

   a. Industrial waste approval for the New York City sewer system.

   b. Groundwater discharge permit for the New York City sewer system (DEP Division of Sewer Regulation and Control), if discharge to sewer exceeds 10,000 gallons per day.

   c. The Contractor shall comply with DEC State Pollutant Discharge Elimination System (SPDES) Permit Number GP-0-10-001, General Permit for Stormwater Discharges.

   d. Long Island well point permit for Brooklyn and Queens sites, if well points are used for dewatering.

   e. Wastewater quality control application, DEP.

3. The WHP for this portion of the work shall include at a minimum:

a. Identification and design of Contractor's proposed treatment to assure that the water meets the DEP sewer use guidelines prior to discharge to the sewer, including identification of all materials, procedures, settling or filtering tanks, filters and other appurtenances proposed for treatment and disposal of contaminated water.

b. The name, address and telephone number of the contact for the Contractor's proposed chemical laboratory, as well as the laboratory's certifications under Federal, State or non-governmental bodies.

c. The name, address and telephone number of the contact for the Contractor's proposed independent Environmental Consultant.

d. Copies of all submitted permit applications and approved permits the Contractor have received.

4. Materials

The Contractor shall supply all settling or filtering tanks, pumps, filters, treatment devices and other appurtenances for treatment, temporary storage and disposal of contaminated water. All equipment shall be suitable for the work described herein.

5. Execution

a. The Contractor is solely responsible for disposal of all water, in accordance with all Federal, State and Local regulations.

b. The Contractor is solely responsible for any treatment required to assure that water discharged into the sewer is in compliance with all permits and Federal, State and Local statutes and regulations.

c. The Contractor is solely responsible for the quality of the water disposed of into the sewers.

d. The Contractor is responsible for sampling and testing of water for the DEP Sanitary/Combined and Storm sewer Effluent Limit concentrations. The quality of the data is the Contractor's responsibility. Any sampling and testing shall be conducted and paid in accordance with Item 8.01 W2 – Sampling and Testing of Contaminated Water.

e. The Contractor shall be responsible to maintain the discharge rate to the sewer such that all permit requirements are met, the capacity of the sewer is not exceeded and no surcharging occurs downstream due to the Contractor's actions. Dewatering by means of well points or deep wells will not be allowed in the Boroughs of Brooklyn or Queens where the rate of pumping exceeds forty-five (45) gallons per minute unless the appropriate permit has been secured from the DEC.

f. Disposal of Treatment Media

(1) The Contractor shall be responsible for disposal or recycling of treatment media in accordance with all Federal, State and Local regulations.

(2) The Contractor shall provide the DDC with all relevant documentation concerning the disposal of treatment media, including manifests, bills of

lading, certificates of recycling or destruction and other applicable documentation.

(3) **Disposal of treatment media shall not be considered as a separate pay item; instead it shall be considered as incidental work thereto and included in the unit price bid.**

B. Off-Site Disposal

1. Regulations: The Contractor shall conform to all applicable Federal, State and Local regulations pertaining to the transportation, storage and disposal of any hazardous and/or non-hazardous materials as listed in Attachment 2.

2. The following shall be submitted to the DDC prior to initiating any off-site disposal:

a. (1) Name and waste transporter permit number

(2) Address

(3) Name of responsible contact for the hauler

(4) Any and all necessary permit authorizations for each type of waste transported

(5) Previous experience in performing the type of work specified herein

b. General information for each proposed treatment/disposal facility and at least one backup treatment/disposal facility

(1) Facility name and EPA identification number

(2) Facility location

(3) Name of responsible contact for the facility

(4) Telephone number for contact

(5) Unit of measure utilized at facility for costing purposes

c. A listing of all permits, licenses, letters of approval and other authorizations to operate, which are currently held and valid for the proposed facility as they pertain to receipt and management of the wastes derived from this Contract.

d. A listing of all permits, licenses, letters of approval and other authorizations to operate which have been applied for by the proposed facility but not yet granted or issued. Provide dates of application(s) submitted. Planned submittals shall also be noted.

e. The Contractor shall specify and describe the disposal/containment unit(s) that the proposed facility will use to manage the waste and provide dates of construction and beginning of use, if applicable. Drawings may be provided. The Contractor shall identify the capacity available in the units and the capacity reserved for the subject waste.

f. The Contractor shall provide the date of the proposed facility's last compliance inspection.

g. A list of all active (unresolved) compliance orders, agreements, enforcement notices or notices of violations issued to the proposed facility shall be submitted. The source and nature of the cause of violation shall be stated, if known. If groundwater contamination is noted, details of the facility's groundwater monitoring program shall be provided.

h. Description of all sampling and field/laboratory analyses that will be needed to obtain disposal facility approval.

3. Materials

All vessels for temporary storage and transport to an off-site disposal facility shall be as required in DOT regulations.

4. Execution

a. General

(1) The Contractor shall organize and maintain the material shipment records/manifests required by Federal, State and Local law. The Contractor shall include all bills of lading, certificates of destruction, recycling or treatment and other applicable documents.

(2) The Contractor shall coordinate the schedule for truck arrival and material deliveries at the job site to meet the approved project schedule. The schedule shall be compatible with the availability of equipment and personnel for material handling at the job site.

(3) The Contractor shall inspect all vehicles leaving the project site to ensure that contaminated liquids are not spilling and are contained for transport.

(4) The Contractor shall obtain letters of commitment from the waste haulers and the treatment, disposal or recovery facility to haul and accept shipment. The letter shall indicate agreement to handle and accept the specified estimated quantities and types of material during the time period specified in the project schedule and any time extension as deemed as necessary.

(5) The Contractor shall verify the volume of each shipment of water from the site.

(6) The Contractor is responsible for sampling and testing of water for off-site disposal. The quality of the data is the Contractor's responsibility. Any sampling and testing shall be conducted and paid in accordance with Item 8.01 W2 – Sampling and Testing of Contaminated Water.

(7) The Contractor shall be responsible for any additional analyses required by the TSD facility, and for the acceptance of the water at an approved TSD facility.

b. Hauling

(1) The Contractor shall not deliver waste to any facility other than the TSD facility(ies) listed on the shipping manifest.

(2) The Contractor shall coordinate manifesting, placarding of shipments, and vehicle decontamination. All quantities shall also be measured and recorded upon arrival at the TSD facility(ies). If any deviation between the two records occurs, the matter is to be reported immediately to the DDC and shall be resolved by the Contractor to the satisfaction of the DDC.

(3) The Contractor shall be held responsible for any and all actions necessary to remedy situations involving material spilled in transit or mud and dust tracked off-site. This cleanup shall be accomplished at the Contractor's expense.

(4) The Contractor shall be responsible for inspecting the access routes for road conditions, overhead clearance and weight restrictions.

(5) The Contractor shall only use the transporter(s) identified in the WHP for the performance of work. Only a transporter with a current Part 364 Waste Transporter Permit from DEC may transport this material. Any use of substitute or additional transporters must have previous written approval from the DDC at no additional cost to the City.

(6) The Contractor shall develop, document, and implement a policy for accident prevention.

(7) The Contractor shall not combine waste materials from other projects with material from this project.

(8) The Contractor shall obtain for the City a hazardous waste generator identification number and will sign the manifest as the generator, if necessary.

(9) No material shall be transported until approved by the DDC.

c. Disposal Facilities

(1) The Contractor shall use only the TSD facility(ies) identified in the WHP for the performance of the work. Substitutions or additions shall not be permitted without prior written approval from the Program 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:

ITEM NUMBER	ITEM	PAYMENT UNIT
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:

ITEM NUMBER	ITEM	PAYMENT UNIT
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) (Sanitary sewer)	6.5-8.5 5-11	SU's	Instantaneous	
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 0.69	mg/l mg/l	Instantaneous 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 DEP 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.

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.

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.

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.

Toxicity Characteristic Leaching Procedure: A laboratory testing method used to determine the concentrations of certain substances in a material that has the ability to leach from the material. These concentrations are used to determine if the material exhibits toxicity levels characteristic of a hazardous waste.

ATTACHMENT 4

Environmental Engineering Report

ENVIRONMENTAL ENGINEERING REPORT

UNITED STATES TENNIS ASSOCIATION
USTA UN AVENUE CONNECTOR ROAD RELOCATION
BOROUGH OF QUEENS, NEW YORK

Capital Project ID: P-USTA1
Parsons Brinckerhoff Project No. 183893A

Revision 1 – July 30, 2013

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EXECUTIVE SUMMARY

The United States Tennis Association National Tennis Center Incorporated (USTA) has retained Parsons Brinckerhoff Inc. (Parsons Brinckerhoff) to undertake final design for a new connector roadway and Perimeter Road (N-S Meridian Road) widening in the vicinity of the intersection of United Nations (UN) Avenue North and N-S Meridian Road, Flushing, Queens, NY. Due to the relocation of Stadium 3 – Grandstand Stadium from its current location adjacent to Louis Armstrong Stadium to the Southwest corner of the National Tennis Center (NTC) site, a relocation of the UN Avenue Connector Roadway is necessary.

The proposed work involves demolition of the existing connector road to free the space for the construction of the new stadium, construction of new connector road, widening of existing N-S Meridian Road and partial replacement of the sewer underneath the N-S Meridian Road.

The purpose of the environmental subsurface investigation was to provide USTA with information to enable the future contractor to understand the types of environmental characteristics of the material they may encounter. In essence, the investigation was designed to assess the presence of subsurface contamination (contaminated soils and/or groundwater, contaminated urban fill, etc.) that may impact the proposed work activities. The subsurface material was not assessed to determine if chemical characteristics would result in classifying the material as hazardous as defined by the Environmental Protection Agency (EPA). The analytical requirements associated with these chemical characteristics was not included as part of Parsons Brinckerhoff's scope of work.

Parsons Brinckerhoff performed an environmental subsurface investigation consisting of oversight of the installation of five test borings (two of which were converted to permanent observation wells), soil sampling of the five newly installed test borings, and groundwater sampling of one of the newly installed observation wells. Samples were submitted for laboratory analysis of one or more of the following parameters, depending on sample type (i.e. discrete, composite, or groundwater): volatile organic compounds (VOCs) by EPA Method 8260; SVOCs by EPA Method 8270; pesticides by EPA Method 8081; PCBs by EPA Method 8082; herbicides by EPA Method 8151; and target analyte list (TAL) metals by EPA Method 6000/7000 series. Analytical results for soil were compared to New York State Department of Environmental Conservation (NYSDEC) Part 375 Unrestricted Use Soil Cleanup Objectives (SCOs) and the groundwater results were compared to NYSDEC Division of Water Technical and Operational Guidance Series (TOGS) 1.1.1, "Ambient Water Quality Standards and Guidance Values." The results of the environmental subsurface investigation indicated the following:

- Field observations and screening did not reveal the presence of impacts or other physical evidence of contamination in any of the soil or groundwater sampling locations. Historical fill was identified in the overburden during the installation of each boring and was observed throughout the entire unsaturated zone. The depth of the unsaturated zone varied from 10 to 20 feet below grade (fbg) depending on the boring elevation. No native material was encountered within the unsaturated zone.
- The results of the analysis of the soil samples revealed the presence of VOCs, SVOCs, metals, and pesticides in one or more soil samples at concentrations exceeding applicable criteria. The magnitude of the detections indicates that the exceedences can be attributed to historical urban

fill and not indicative of a past hazardous materials spill at the site. Urban fill was observed in each of the borings installed at the site throughout the entire unsaturated zone.

- The results of the groundwater analysis revealed no VOCs, SVOCs, pesticides, herbicides or polychlorinated biphenyls (PCBs) detected above applicable criteria. Total metals results were not considered indicative of true groundwater quality at the Site. The dissolved metals exceedences are likely a result of naturally occurring lithological constituents or permitted non-toxic materials, and not indicative of an environmental condition due to past or present hazardous materials uses at the Site or the vicinity of the Site.

The environmental subsurface investigation indicated that the potential soil types associated with the road reconstruction project, as defined for disposal purposes include:

- C&D (construction and demolition) / uncontaminated solid waste, and
- Contaminated urban fill

The maximum excavation depth on the site property is anticipated to be 20 fbg or less. The contractor should anticipate that the majority of the excavated material from grade to approximately 20 fbg should be classified as contaminated urban fill. Based on the field observations, the contractor will likely encounter a small percentage of large boulders, concrete/brick aggregate or historic buried foundations that should be separated from the soil matrix and classified as C&D.

The groundwater sampled did not exhibit concentrations that would preclude construction dewatering from being discharged to New York City's sanitary or combined sewer system without treatment. However, discharge permits issued by the New York City Department of Environmental Protection (NYCDEP) may require additional analysis of various parameters such as: non-polar material, pH, temperature, flash point, hexavalent chromium, and total suspended solids.

Based on the results of Parsons Brinckerhoff's environmental subsurface investigation, Parsons Brinckerhoff recommends the following:

- Based on the concentrations of SVOCs detected in the boring composite samples, additional sampling should be conducted to determine if the contractor might encounter any hazardous waste as defined by the EPA. At a minimum, samples should be collected and analyzed for SVOCs by EPA Method 1311, the toxic characteristic leaching procedure (TCLP) method and for ignitability (EPA Method 1010A, 1020B, or 1030), corrosivity (EPA Method 1110A), and reactivity (EPA Method SW-846 7.3.3.2 and SW-846 7.3.4.1).
- The information provided in this Environmental Engineering Report should be utilized when assessing construction worker health and safety and preparing a Site specific Construction Health and Safety Plan (CHASP). Special provisions may include the inclusion of a community air monitoring plan (CAMP) prior to commencement of construction activities.
- Depending on what the contract specifications require, the contractor should utilize information provided in this Environmental Engineering Report to prepare materials handling plan (MHP), an air monitoring and exposure monitoring plan (AMP/EMP), and a groundwater control plan (GCP).

1.0 INTRODUCTION

The USTA National Tennis Center Incorporated (USTA) has retained Parsons Brinckerhoff Inc. (Parsons Brinckerhoff) to undertake final design for a new connector roadway and Perimeter Road (N-S Meridian Road) widening in the vicinity of the intersection of United Nations (UN) Avenue North and N-S Meridian Road, Flushing, Queens, NY. Due to the relocation of Stadium 3 – Grandstand Stadium from its current location adjacent to Louis Armstrong Stadium to the Southwest corner of the National Tennis Center (NTC) site, a relocation of the UN Avenue Connector Roadway is necessary.

The proposed work involves demolition of the existing connector road to free the space for the construction of the new stadium, construction of new connector road, widening of existing N-S Meridian Road and partial replacement of the sewer underneath the N-S Meridian Road.

The site is bound to the north and east by the tennis courts and its supporting facilities, and by the existing connector road. The site is bound to the west by the N-S Meridian Road and to the south by the Queens Museum of Art parking lot. Project location is shown on Figure 1 (Site Location Plan). The portion of N-S Meridian Road that is part of the site runs from Station PR 10+00 to Station PR 19+00. The new sewer will be located along the N-S Meridian Road and will replace the existing sewer that is no longer working conditions between stations PR 14+40 and PR 19+00. The proposed Connector runs from Station CR 21+61 to Station CR 25+00, connecting the N-S Meridian Road, at about Station PR 16+75, to the UN Avenue North.

This Environmental Engineering Report presents the results of an environmental subsurface investigation that was performed concurrently with a geotechnical subsurface exploration, also performed by Parsons Brinckerhoff. Only select portions of the full scope were required to be performed to complete the environmental investigation. This report exclusively details only those select portions of the scope of work. The full scope of work and the results of the geotechnical subsurface exploration are provided under separate cover.

1.1 Purpose

The purpose of the environmental subsurface investigation was to provide USTA with information to enable the future contractor to understand the types of environmental characteristics of the material they may encounter. In essence, the investigation was designed to assess the presence of subsurface contamination (contaminated soils and/or groundwater, contaminated urban fill, etc.) that may impact the proposed work activities. The subsurface material was not assessed to determine if chemical characteristics would result in classifying the material as hazardous as defined by the Environmental Protection Agency (EPA). The analytical requirements associated with these chemical characteristics was not included as part of Parsons Brinckerhoff's scope of work.

Parsons Brinckerhoff's scope of work was designed to characterize the soil to depths that would meet or exceed the potential depths of excavation and soil removal that would likely be required by the contractor for a typical road reconstruction project.

2.0 DESCRIPTION OF FIELD ACTIVITIES

Environmental subsurface field activities were performed concurrently with the geotechnical field activities on May 2nd, 3rd, 6th through 8th, and May 10th. For the purposes of the environmental subsurface investigation the following activities were performed:

- Oversight of the installation of five test borings (two of which were converted to observation wells)
- Soil sampling of the five newly installed test borings
- Groundwater sampling of one of the newly installed observation wells

A Site Plan showing all the test boring locations and Site features is provided as Figure 2.

2.1 Installation of Test Borings and Observation Wells

The drilling of the test borings and installation of the observation wells was performed by Jersey Boring & Drilling Co., Inc. (Jersey Boring) of Newark, New Jersey, under supervision of Parsons Brinckerhoff Geotechnical and Environmental Engineers. The borings were drilled using a CME 750 truck mounted drilling rig. Borings were advanced using a rotary mud drilling method. Soil samples obtained included disturbed split spoon samples. Disturbed split spoon samples were generally obtained continually from a depth of 6 ft to a depth of 12 ft, and afterwards at five feet intervals. The top 6 ft of each boring was advanced using a hand auger for utility clearance.

The soil samples were obtained using 2-inch outer diameter, 1⅜-inch inner diameter, standard penetration test (SPT) split barrel samplers driven 24-inches into the soil. The sampler was driven by successive blows of a 140 pound hammer dropped from a height of 30 inches, as described in ASTMD1586. All SPT samples were visually classified in the field by a Parsons Brinckerhoff Environmental Engineer using nomenclature of the Burmister system of soil identification. The soil samples were continuously field screened with a photoionization detector (PID) from surface grade to terminal depth for each test boring. Field observations, PID readings, and soil types were documented in geologic boring logs (Appendix A).

B-1X (denoted on Figure 2 as B-1A), was abandoned due to resistance encountered at 8 feet below grade (fbg) and its proximity to a buried natural gas pipe. The boring was moved to the south as shown on Figure 2 and completed as B-1. The installation of B-6A also encountered an obstruction; therefore, the boring was moved to the east and completed as B-6.

Two standpipe groundwater observation wells were installed in borings B-3 and B-8 to allow monitoring of groundwater levels and to determine groundwater quality. The observation wells extended to a depth of 25 and 35 feet respectively. Both wells consist of 2-inch inner diameter PVC pipe fitted with a 10-foot long slotted PVC well screen. Clean sand was placed around the well screen and the hole was sealed with a two to seven foot thick bentonite seal topped with cement grout. A protective steel casing was secured in place over the PVC with a concrete collar at the ground surface.

Based on monitoring results, groundwater is located at a depth of approximately 9.4 fbg at elevation in B-3, and at depth of approximately 21.1 fbg in B-8.

2.2 Soil Sampling

Based on field screening results and lithology, both boring composite samples and discrete grab samples were collected for laboratory analysis. The soil samples chosen for laboratory analysis were submitted to York Analytical Laboratories, Inc. (York) in Stratford, CT via courier. A summary of the soil analytical results is provided in Tables 7 through 10, and copies of the analytical laboratory results are attached in Appendix B.

2.2.1 Composite Soil Sampling

Boring composite samples were collected from each test boring to characterize the urban fill that was identified throughout the entire unsaturated zone. The depth of the unsaturated zone varied from 10 to 20 fbg depending on the boring elevation. No native material was encountered within the unsaturated zone. Five composite samples, B-1 (0-10 COMP), B-2 (0-22 COMP), B-3 (0-22 COMP), B-6 (0-22 COMP), and B-8 (0-22 COMP), were collected from the site. Each boring composite sample was created by homogenizing grab samples collected from each spilt spoon sample from the urban fill at the depths specified in the sample name (e.g. 0-22 COMP). The results of the boring composite samples represent the chemical constituents of the urban fill identified at the site.

Urban fill within the five boroughs of New York City typically contains low levels of contaminants such as metals, semi volatile organic compounds (SVOCs), pesticides, and PCBs. Based on these chemical characteristics of urban fill, the boring composite soil samples were submitted to York for analysis of SVOCs by United States Environmental Protection Agency (EPA) Method 8270, pesticides by EPA Method 8081, PCBs by EPA Method 8082, herbicides by EPA Method 8151, and target analyte list (TAL) metals by EPA Method 6000/7000 series.

2.2.2 Discrete Soil Sampling

One discrete grab soil sample was collected from each of the five test borings. Samples B-1X (6-8 GRAB), B-2 (10-12 GRAB), B-3 (10-12 GRAB), B-6 (10-12 GRAB), and B-8 (10-12 GRAB) were chosen for laboratory analysis. The methodology for sample depth selection of the discrete grab samples was based on the presence of indicators of contamination (olfactory, visual, and/or PID readings). However, none of the hand clearing or split spoon samples exhibited any indicators of contamination. Low PID readings were observed in soil from B-2, ranging from 0.3 to 0.9 parts per million (ppm). Background readings also ranged from 0.3 to 0.5 ppm during the installation of B-2; therefore, the PID readings were attributed to instrument drift and not actual organic vapor readings. With the absence of indicators of contamination, the samples depths chosen for analysis were based on the amount of split spoon recovery. Split spoon samples with the greatest recovery were chosen for discrete grab samples to ensure the laboratory would have enough matrix to complete the requested analyses.

Four of the five collected grab samples were submitted to York for analysis of volatile organic compounds (VOCs) by EPA Method 8260. The discrete grab sample collected from B-3 (10-12) was broken during transit and not analyzed.

2.3 Observation Well Development and Sampling

Development of observation wells B-3 OW and B-8 OW were completed by Jersey Boring on May 7, 2013 under the direction of Parsons Brinckerhoff Geotechnical and Environmental engineers. Jersey boring completed the development with a submersible pump and removed approximately 55 gallons of groundwater from B-3 OW and 25 gallons from B-8 OW. At the start of development, groundwater from both wells was observed to be highly turbid. When development was completed, the groundwater from both wells remained slightly turbid.

Details from the observation well development are provided in the Well Development Data forms provided in Appendix A.

Sampling of groundwater from B-8 OW was completed on May 8, 2013. A dedicated polyethylene bailer was used to purge three well volumes and collect a sample. The groundwater samples were collected and evaluated for evidence of contamination. No visual or olfactory indications of contamination or any PID readings were observed during groundwater sample collection.

The groundwater sample was transported via courier to York. Groundwater was analyzed for SVOCs by EPA Method 8270, pesticides by EPA Method 8081, PCBs by EPA Method 8082, herbicides by EPA Method 8151, and target analyte list (TAL) metals (total and dissolved) by EPA Method 6000/7000 series.

A summary of the analytical results is provided in Tables 11 through 15, and copies of the analytical laboratory results are attached in Appendix B.

3.0 SITE DESCRIPTION AND PHYSICAL CHARACTERISTICS

3.1 Topography

The topography along N-S Meridian Road is relatively flat varying between elevation 13.5 near the United Nations Avenue North Bridge and elevation of about 15.5 on the near the existing connector road to the north and near the proposed connector road to the south. The elevation along the proposed connector road slopes from about elevation 15 near the N-S Meridian Road to about Elevation 26 near the proposed connection with the United Nations Avenue North.

3.2 Geology

The site lies in a glaciated region north of the Harbor Hill Terminal Moraine. Pleistocene deposits consisting of glacial till, ground moraine, and glacial lake deposits directly overlie Precambrian crystalline rock. The glacial deposits were subsequently covered with a deposit of marine clay when the rise in sea level flooded the area and created the present environment.

Based on geological data, the bedrock underlying the site is gneiss, which is the oldest member of the New York Series of metamorphic rocks. The age of this rock is estimated to be at least 480 million years. The upper part of the rock shows varying degrees of weathering and is often decomposed into silt and clay-like material. Overlying the gneiss is a deposit of silt, sand, gravel and boulders, called glacial till. This material originated about 20,000 years ago when an ice sheet 2,000 to 5,800 ft thick covered the area. As the ice began to melt, the sand and gravel that it had carried was deposited. Boulders of dolerite from the Palisades and schist and gneiss from Manhattan and the Bronx, can be found in the till. Alternate warmer and colder periods that occurred until the end of the "ice age" caused alternate advances and recession of ice over the glacial till that had been previously deposited, further densifying the deposited till. A glacial lake formed when the glacier melted. Varying amounts of deposition resulting from climatic variation resulted in formation of alternate lamina of silt and clay called varves. This varved silt and clay is referred to as the Lake Flushing deposit by James Parsons (1976). During the summer thaw, sediments were carried into the lake by glacial melt waters. The coarser grained silts and fine sands sedimented quickly while the finer clay sized particles remained in suspension longer and were deposited in the winter. Therefore, each varve represents one year in the depositional history of the lake. Based On the study by Parsons (1976), the varved Lake Flushing deposit has been heavily preconsolidated in its past geologic history.

The melting of the glaciers led to a gradual worldwide rise in sea levels which breached the dam that ponded the melt water, draining Glacial Lake Flushing. The removal of the ice load and the resulting crustal uplift changed the lacustrene depositional environment to fluvial. Sands were deposited on top of the varved silts and clays by the many streams that flowed across the emerging land. A further rise in sea levels led to deposition of organic clays on top of the sands. In more recent times, man-made fills have been placed on top of the organic clays.

The subsurface conditions encountered at the site during the subsurface investigation program generally consist of a granular fill layer of varying thickness overlying slightly organic clay layer, overlying gravel and sand. More specific information is provided in the Geotechnical Engineering Report, prepared by Parsons Brinckerhoff in June of 2013 and provided under separate cover.

3.3 Hydrology

According to the USGS report entitled "Ground Water in Bronx, New York, and Richmond Counties with Summary Data on Kings and Queens Counties" (USGS, 1953), the Site is underlain by till deposits that have filled in depressions in the bedrock geology. This glacial layer contains most of the available groundwater in the area. The bedrock geology consists of a tight metamorphic formation that in general does not yield much water. Much of the water that enters the groundwater system remains in the till layer, moves laterally, and discharges to surrounding salt-water bodies. Groundwater seepage to streams and springs in and around New York City causes some vertical gradients in the shallow groundwater aquifer. The rest of the water entering the system flows downward to the deeper aquifers that discharge to surrounding salt-water bodies.

Two observation wells were installed. Groundwater was encountered in the observation well B-3 OW and B-8 OW at 9.3 and 21.2 fbg, respectively. Based on the depth to groundwater and a review of the geologic logs, groundwater appears to occur within the unconsolidated overburden zone, consisting of urban fill. The site is in close proximity to Flushing Creek and Flushing Bay and the topography of the area suggests that the groundwater flow direction is likely towards the north-northeast. However, a variety of factors can affect the path of groundwater flow, such as joints and fractures in the bedrock, buried river valleys and stream beds, buried fault zones, as well as sewer lines and other subsurface utilities.

4.0 DISCUSSION OF FINDINGS

This section presents a discussion of the findings of the Limited Phase II ESA. A summary of the laboratory results is presented in Tables 7 to 15. The complete laboratory analytical data packages are included in Appendices B.

4.1 Applicable Regulatory Standards

This subsection identifies the EPA and/or New York State Department of Environmental Conservation (NYSDEC) regulatory standards and guidelines used to evaluate the results of the soil and groundwater sampling. The standards and guidelines used to evaluate the specific data are described individually below.

4.1.1 Soil Quality Standards

Analytical results for soil were compared to NYSDEC Part 375 Unrestricted Use Soil Cleanup Objectives (SCOs), found in 6 New York Codes, Rules, and Regulations (NYCRR) Part 375, Subpart 6 "Remedial Program Soil Cleanup Objectives." SCOs are soil quality standards that are enforceable regulatory limits.

4.1.2 Groundwater Quality Standards and Guidance Values

Analytical results for groundwater were compared to New York State Class GA groundwater standards and guidance values, found in the NYSDEC Division of Water Technical and Operational Guidance Series (TOGS) 1.1.1, "Ambient Water Quality Standards and Guidance Values." Ambient water quality standards are enforceable regulatory limits. Where ambient water quality standards do not exist, ambient water quality guidance values were used to evaluate the groundwater results.

4.2 Soil Sampling Findings

Both boring composite samples and discrete grab samples were collected for laboratory analysis. Laboratory analysis was completed for composite samples collected at B-1 from 0 to 10 fbg and from 0 to 22 fbg at B-3, B-6, B-8, and B-2. In addition, laboratory analysis was completed for discrete grab samples at B-1A (B-1X) from 6 to 8 fbg and from 10 to 12 fbg at B-2, B-6, and B-8.

4.2.1 Volatile Organic Compounds (VOCs) in Soil

The discrete grab samples were analyzed for VOCs. A review of the results of the analyses for VOCs in soil indicates that two of the 66 compounds analyzed were detected in the one or more soil samples. Acetone was detected in B-8 (10-12 GRAB) at 3.2 µg/L; above its NYSDEC Unrestricted Use SCO. Acetone is a common lab contaminant and was detected in the associated laboratory batch blank at a concentrations of 5.1 µg/L. York's laboratory report indicates that data users should consider anything less than ten times the blank value as laboratory artifact. Acetone and 2-butanone (also known as methyl ethyl ketone or MEK) were detected in B-2 (10-12 GRAB) at concentrations greater than their respective NYSDEC Unrestricted Use SCOs. In addition to being a common lab contaminant, acetone is often the primary component (solvent) in cleaning agents such as nail polish remover and 2-butanone is an effective and common solvent used in processes involving gums, resins, cellulose acetate and nitrocellulose coatings and in vinyl films. For this reason it finds use in the manufacture of plastics, textiles, in the production of paraffin wax, and in household products such as lacquer, varnishes, paint remover, a denaturing agent for denatured alcohol, glues, and as a cleaning agent. It has similar

solvent properties to acetone. The presence of these compounds in B-2 (10-12 GRAB) is localized and is attributed to historical fill used to grade the site. A summary of the analytical results for VOCs in the discrete grab samples is presented in Table 7. A summary of the detected VOCs at concentrations greater than the corresponding SCOs is provided below:

Table 1
Summary of Detected Volatile Organic Compounds above New York State Unrestricted Soil Cleanup Objectives

USTA UN Avenue Connector Road Relocation Queens, NY	NYSDEC Part 375 Unrestricted Use SCOs	Soil Results B-1X (10-12 GRAB)	Soil Results B-1X (10-12 GRAB)	Soil Results B-1X (10-12 GRAB)	Soil Results B-1X (10-12 GRAB)
Chemical	(µg/L)	07-May-13	10-May-13	03-May-13	02-May-13
2-Butanone (MEK)	0.00012	ND	**6.7**	ND	ND
Acetone	0.00005	ND	**20**	ND	**3.2 (J,B)**

ND - Not detected above laboratory minimum detection limit (MDL)
J - Detected below the Reporting Limit but greater than or equal to the Method Detection Limit (MDL); therefore, the result is an estimated concentration.
B - Analyte is found in the associated analysis batch blank. Methylene chloride and acetone are common lab contaminants. Data users should consider anything <10x the blank value as artifact.
Bold – Exceeds applicable criteria or guidance value
(µg/L) – micrograms per liter

4.2.2 Semi-Volatile Organic Compounds (SVOCs) in Soil

A review of the results of the analyses for SVOCs in soil indicates that twelve of the 67 compounds analyzed were detected in one or more of the soil samples. SVOCs were detected at concentrations ranging from 379 to 6,960 µg/L and each compound detected above laboratory detection limits exceeded its applicable Unrestricted Use SCO. All of the SVOCs detected belong to the group of SVOCs know as polycyclic aromatic hydrocarbons (PAHs). PAHs are a group of chemicals that are formed during the incomplete burning of coal, oil, gas, wood, garbage, or other organic substances. They can be found in substances such as asphalt used in road construction, crude oil, coal, coal tar pitch, creosote (applied to railroad ties), and roofing tar. The highest concentrations of PAHs were found in the boring composite sample collected from urban fill in B-2, however, the concentrations detected in all of the samples are typical of urban fill material in New York City and are not indicative of a hazardous materials spill. A summary of the analytical results for SVOCs in groundwater is presented in Table 8. A summary of the detected SVOCs at concentrations greater than the corresponding SCOs is provided below:

Table 2
Summary of Detected Semi-Volatile Organic Compounds above New York State Unrestricted Soil Cleanup Objectives

USTA UN Avenue Connector Road Relocation Queens, NY	NYSDEC Part 375 Unrestricted Use SCOs	Soil Results B-1 (0-10 COMP)	Soil Results B-2 (0-22 COMP)	Soil Results B-3 (0-22 COMP)	Soil Results B-6 (0-22 COMP)	Soil Results B-8 (0-22 COMP)
Chemical	(µg/L)	07-May-13	10-May-13	06-May-13	03-May-13	02-May-13
Anthracene	0.1	ND	**904 (J)**	ND	ND	ND
Benzo(a)anthracene	0.001	ND	**4,220**	ND	**1,040 (J)**	**611 (J)**

USTA UN Avenue Connector Road Relocation Queens, NY	NYSDEC Part 375 Unrestricted Use SCOs	Soil Results B-1 (0-10 COMP)	Soil Results B-2 (0-22 COMP)	Soil Results B-3 (0-22 COMP)	Soil Results B-6 (0-22 COMP)	Soil Results B-8 (0-22 COMP)
Chemical	(µg/L)	07-May-13	10-May-13	06-May-13	03-May-13	02-May-13
Benzo(a)pyrene	0.001	**585 (J)**	**4,140**	ND	**1,230**	**634**
Benzo(b)fluoranthene	0.001	ND	**3,240**	ND	**1,240**	ND
Benzo(g,h,i)perylene	0.1	ND	**2,290**	ND	**379 (J)**	ND
Benzo(k)fluoranthene	0.0008	ND	**3,500**	ND	ND	ND
Chrysene	0.001	**517 (J)**	**4,330**	ND	**1,190**	**645**
Dibenzo(a,h)anthracene	0.00033	ND	**1,150 (J)**	ND	ND	ND
Fluoranthene	0.1	**817**	**5,690**	ND	**1,300**	**1,020 (J)**
Indeno(1,2,3-cd)pyrene	0.0005	ND	**2,320**	ND	ND	ND
Phenanthrene	0.1	ND	**3,940**	ND	ND	**609 (J)**
Pyrene	0.1	**827 (J)**	**6,960**	ND	**1,290**	**1,010 (J)**

ND - Not detected above laboratory minimum detection limit (MDL)
J - Detected below the Reporting Limit but greater than or equal to the Method Detection Limit (MDL); therefore, the result is an estimated concentration.
Bold – Exceeds applicable criteria or guidance value
(µg/L) – micrograms per liter

4.2.3 Metals in Soil

A review of the results of the analyses of total metals for soil indicates that 21 of the 23 metals analyzed were detected in the one or more of the boring composite soil samples. Ten metals (arsenic, barium, cadmium, chromium, copper, lead, nickel, selenium, sliver, and zinc) were detected in soil at concentrations that exceeded the Unrestricted Use SCOs. The concentrations detected in all of the samples are typical of urban fill material in New York City. Summaries of the analytical results for total metals in groundwater are presented in Table 9. A summary of the detected total metals at concentrations greater than the corresponding SCOs is provided below:

Table 3
Summary of Detected Total Metals above New York State
Unrestricted Soil Cleanup Objectives

USTA UN Avenue Connector Road Relocation Queens, NY	NYSDEC Part 375 Unrestricted Use SCOs	Soil Results B-1 (0-10 COMP)	Soil Results B-2 (0-22 COMP)	Soil Results B-3 (0-22 COMP)	Soil Results B-6 (0-22 COMP)	Soil Results B-8 (0-22 COMP)
Chemical	(mg/L)	07-May-13	10-May-13	06-May-13	03-May-13	02-May-13
Arsenic	13	8.12	**26.9**	**44.0**	**27.0**	**17.0**
Barium	350	210	**1,080**	**1,200**	**732**	**719**
Cadmium	2.5	ND	**2.52**	**6.55**	1.80	2.15
Chromium, total	30 / 1[2]	19.4	**46.0**	**42.4**	**35.2**	26.6
Copper	50	**107**	**371**	**940**	**504**	**1,990**
Lead	63	**366**	**3,420**	**3,860**	**1,260**	**1,350**
Nickel	30	20.6	26.9	28.8	**47.8**	26.7
Selenium	3.9	2.06	**5.65**	2.57	3.85	3.07
Silver	2	ND	1.74	**17.2**	ND	ND
Zinc	109	**411**	**1,440**	**3,230**	**1,280**	**1,770**

ND - Not detected above laboratory minimum detection limit (MDL)
Bold – Exceeds applicable criteria or guidance value
(mg/L) – milligrams per liter

4.3.3 Pesticides, Herbicides, and PCBs in Soil

A review of the results of the analyses of pesticides, herbicides, and PCBs in soil indicates that four of the 20 pesticides, none of the three herbicides, and none of the seven PCBs analyzed were detected in the boring composite soil samples above laboratory minimum detection limits. Concentrations of total chlordane, 4,4'-DDT, and 4,4'-DDE were detected above their respective Unrestricted Use SCOs. 4,4'-DDT (4,4'-DDE is a breakdown product of 4,4'-DDT) and chlordane were banned by the EPA in 1972 and 1988, respectively; therefore, the presence of pesticides in the soil samples is attributable to the historical urban fill identified at the site and not to current pesticide applications. Summaries of the analytical results for pesticides, herbicides and PCBs in groundwater are presented in Table 10.

Table 4
Summary of Detected Pesticides, Herbicides & PCBs above New York State Unrestricted Soil Cleanup Objectives

USTA UN Avenue Connector Road Relocation Queens, NY	NYSDEC Part 375 Unrestricted Use SCOs	Soil Results B-1 (0-10 COMP)	Soil Results B-2 (0-22 COMP)	Soil Results B-3 (0-22 COMP)	Soil Results B-6 (0-22 COMP)	Soil Results B-8 (0-22 COMP)
Chemical	(mg/L)	07-May-13	10-May-13	06-May-13	03-May-13	02-May-13
Chlordane, total	0.094	**1.18**	ND	ND	ND	ND
4,4'-DDT	0.0033	**0.0249**	**0.00568**	ND	**0.00671**	**0.0168**
4,4'-DDE	0.0033	**0.0154**	ND	ND	**0.00837**	**0.0102**

ND - Not detected above laboratory minimum detection limit (MDL)
Bold – Exceeds applicable criteria or guidance value
(mg/L) – milligrams per liter

4.3 Groundwater Sampling Findings

Groundwater was encountered in two of the observation wells at the Site; B-3 OW and B-8 OW. The scope of work for the project included sampling of only one of the newly installed wells. B-8 OW was chosen based on the anticipated groundwater flow direction to the north-northeast. B-8 OW is located downgradient with respect to the other test borings installed at the site. The results of the analyses of the groundwater sample are presented in Tables 11 through 15. The complete analytical data report is presented in Appendix B.

4.3.1 Volatile Organic Compounds (VOCs) in Groundwater

A review of the results of the analyses of VOCs for groundwater indicates that two of the 64 compounds analyzed were detected in the groundwater sample. Acetone (5.9 µg/L) and methylene chloride (2.6 µg/L) were detected below NYSDEC Ambient Water Quality Standards and Guidance Values. Both methylene chloride and acetone are common lab contaminants and both were detected in the associated laboratory batch blank at concentrations of 3.0 and 2.7 µg/L, respectively. York's laboratory report indicates that data users should consider anything less than ten times the blank value as laboratory artifact. A summary of the analytical results for VOCs in groundwater is presented in Table 11.

4.3.2 Semi-Volatile Organic Compounds (SVOCs) in Groundwater

A review of the results of the analyses of SVOCs for groundwater indicates that none of the 67 compounds analyzed were detected in the groundwater sample. A summary of the analytical results for SVOCs in groundwater is presented in Table 12.

4.3.3 Metals in Groundwater

Total Metals

A review of the results of the analyses of total metals for groundwater indicates that 14 of the 23 metals analyzed were detected in the groundwater sample. Six metals (barium, iron, lead, magnesium, manganese, and sodium) were detected in groundwater at concentrations that exceeded the NYSDEC Groundwater Standards/Guidance Values. Summaries of the analytical results for total metals in groundwater are presented in Table 13. A summary of the detected total metals at concentrations greater than the corresponding groundwater standards is provided below:

Table 5
Summary of Detected Total Metals above New York State Groundwater Quality Standards and Guidance Values

USTA UN Avenue Connector Road Relocation Queens, NY	NYSDEC TOGS 1.1.1 Class GA Criteria	Groundwater Results B-8 GW
Chemical	(µg/L)	08-May-13
Barium	1,000	**1,080**
Iron	300	**22,800**
Lead	25	**151**
Magnesium	35,000[1]	**74,800**
Manganese	300	**382**
Sodium	20,000	**487,000**

1 - A guidance value may be used where a standard for a substance or group of substances has not been established for a particular water class and type of value. Guidance values have not been promulgated and placed into regulation.
Bold– Exceeds the applicable criteria
(µg/L) – micrograms per liter

Dissolved Metals

A review of the results of the analyses of dissolved metals for groundwater indicates that 11 of the 23 metals analyzed were detected in the groundwater samples. Four metals (magnesium, manganese, selenium, and sodium) were detected in groundwater at concentrations that exceeded the NYSDEC Groundwater Standards/Guidance Values. Summaries of the analytical results for dissolved metals in groundwater are presented in Table 14. A summary of the detected dissolved metals at concentrations greater than the corresponding groundwater standards is provided below:

Table 6
Summary of Detected Dissolved Metals above New York State Groundwater Quality Standards and Guidance Values

USTA UN Avenue Connector Road Relocation Queens, NY	NYSDEC TOGS 1.1.1 Class GA Criteria	Groundwater Results B-8 GW
Chemical	(µg/L)	08-May-13
Magnesium	35,000[1]	**70,200**
Manganese	300	**319**
Selenium	10	**14**
Sodium	20,000	**476,000**

1 - A guidance value may be used where a standard for a substance or group of substances has not been established for a particular water class and type of value. Guidance values have not been promulgated and placed into regulation.
Bold– Exceeds the applicable criteria
(µg/L) – micrograms per liter

When completing an analysis for metals in groundwater, it is important to consider both the total and dissolved (filtered) results. As described in Section 2.3 and documented on the Well Development Data forms in Appendix A, groundwater from both wells remained slightly turbid after development, indicating the groundwater contained visible amounts of suspended solids and colloids. Metals are mineralogical associated with these particles and can falsely elevate the perceived concentrations of mobile and dissolved constituents. In addition, the soil matrix in which the groundwater flows has been shown to consist of urban fill known to contain elevated levels of metals. All six of the total metals detected above criteria or guidance values in B-8 OW were detected in the urban fill soil matrix. Dissolved (filtered) metals analysis of B-8 OW indicated only four metals exceeded applicable criteria. Based on the observed turbidity of the groundwater at B-8 OW, the fact that these metals have been detected in soil samples of urban fill at the site, and the dissolved metals results, total metals exceedences are not considered indicative of true groundwater quality in the vicinity of B-8 OW.

The dissolved metals results for groundwater at the Site indicated exceedences of magnesium, manganese, selenium, and sodium. These exceedences are likely associated with naturally occurring minerals or the permitted use of non-toxic materials (e.g. road salts used for deicing).

In summary, the total metals results are not considered indicative of true groundwater quality at the Site. The dissolved metals exceedences are likely a result of naturally occurring lithological constituents or permitted non-toxic materials, and not indicative of an environmental condition due to past or present hazardous materials uses at the Site or the vicinity of the Site.

4.3.3 Pesticides, Herbicides, and PCBs in Groundwater

A review of the results of the analyses of pesticides, herbicides, and PCBs for groundwater indicates that none of the 20 pesticides, three herbicides, or seven PCBs analyzed were detected in the groundwater samples above laboratory minimum detection limits. Summaries of the analytical results for pesticides, herbicides and PCBs in groundwater are presented in Table 15.

4.4 Summary of Findings

Parsons Brinckerhoff performed an environmental subsurface investigation consisting of oversight of the installation of five test borings (two of which were converted to observation wells), soil sampling of the five newly installed test borings, and groundwater sampling of one of the newly installed observation wells.

The results of the environmental subsurface investigation indicated the following:

- Field observations and screening did not reveal the presence of impacts or other physical evidence of contamination in any of the soil or groundwater sampling locations. Historical fill was identified in the overburden during the installation of each boring and was observed throughout the entire unsaturated zone. The depth of the unsaturated zone varied from 10 to 20 fbg depending on the boring elevation. No native material was encountered within the unsaturated zone.
- The results of the analysis of the soil samples revealed the presence of VOCs, SVOCs, metals, and pesticides in one or more soil samples at concentrations exceeding applicable criteria. The magnitude of the detections indicates that the exceedences can be attributed to historical urban fill and not indicative of a past hazardous materials spill at the site. Urban fill was observed in each of the borings installed at the site throughout the entire unsaturated zone.
- The results of the groundwater analysis revealed no VOCs, SVOCs, pesticides, herbicides or PCBs detected above applicable criteria. Total metals results were not considered indicative of true groundwater quality at the Site. The dissolved metals exceedences are likely a result of naturally occurring lithological constituents or permitted non-toxic materials, and not indicative of an environmental condition due to past or present hazardous materials uses at the Site or the vicinity of the Site.

5.0 CONCLUSIONS AND PROJECT AREA CHARACTERIZATION

The purpose of the environmental subsurface investigation was to provide USTA with information to enable the future contractor to understand the types of environmental characteristics of the material they may encounter. In essence, the investigation was designed to assess the presence of subsurface contamination (contaminated soils and/or groundwater, contaminated urban fill, etc.) that may impact the proposed work activities. The subsurface material was not assessed to determine if chemical characteristics would result in classifying the material as hazardous as defined by the EPA. The analytical requirements associated with these chemical characteristics was not included as part of Parsons Brinckerhoff's scope of work.

Parsons Brinckerhoff's scope of work was designed to characterize the soil to depths that would meet or exceed the potential depths of excavation and soil removal that would likely be required by the contractor for a typical road reconstruction project.

The environmental subsurface investigation indicated that the potential soil types associated with the road reconstruction project, as defined for disposal purposes include:

- C&D / uncontaminated solid waste, and
- Contaminated urban fill

The maximum excavation depth on the site property is anticipated to be 20 fbg or less. The contractor should anticipate that the majority of the excavated material from grade to approximately 20 fbg should be classified as contaminated urban fill. Based on the field observations, the contractor will likely encounter a small percentage of large boulders, concrete/brick aggregate or historic buried foundations that should be separated from the soil matrix and classified as C&D.

The groundwater sampled did not exhibit concentrations that would preclude construction dewatering from being discharged to New York City's sanitary or combined sewer system without treatment. However, discharge permits issued by the New York City Department of Environmental Protection (NYCDEP) may require additional analysis of various parameters such as: non-polar material, pH, temperature, flash point, hexavalent chromium, and total suspended solids.

Based on the results of Parsons Brinckerhoff's environmental subsurface investigation, Parsons Brinckerhoff recommends the following:

- Based on the concentrations of SVOCs detected in the boring composite samples, additional sampling should be conducted to determine if the contractor might encounter any hazardous waste as defined by the EPA. At a minimum, samples should be collected and analyzed for SVOCs by EPA Method 1311, the toxic characteristic leaching procedure (TCLP) method and for ignitability (EPA Method 1010A, 1020B, or 1030), corrosivity (EPA Method 1110A), and reactivity (EPA Method SW-846 7.3.3.2 and SW-846 7.3.4.1).
- The information provided in this Environmental Engineering Report should be utilized when assessing construction worker health and safety and preparing a Site specific Construction Health and Safety Plan (CHASP). Special provisions may include the inclusion of a community air monitoring plan (CAMP) prior to commencement of construction activities.

- Depending on what the contract specifications require, the contractor should utilize information provided in this Environmental Engineering Report to prepare a materials handling plan (MHP), an air monitoring and exposure monitoring plan (AMP/EMP), and a groundwater control plan (GCP).

6.0 SIGNATURES OF ENVIRONMENTAL PROFESSIONALS

Parsons Brinckerhoff has prepared this Environmental Engineering Report for the USTA UN Avenue Connector Road Relocation project located in the Borough of Queens, New York.

Parsons Brinckerhoff, Inc.



Prepared By: _____
Gregory M. Cellamare
Lead Environmental Scientist



Senior Review By: _____
Kevin Heaphy, P.E.
Environmental Engineering Manager

7.0 REFERENCES

6 New York Codes, Rules, and Regulations Part 375, Subpart 6 "Remedial Program Soil Cleanup Objectives, New York State Department of Environmental Conservation Unrestricted Use Soil Cleanup Objectives," June 14, 2006.

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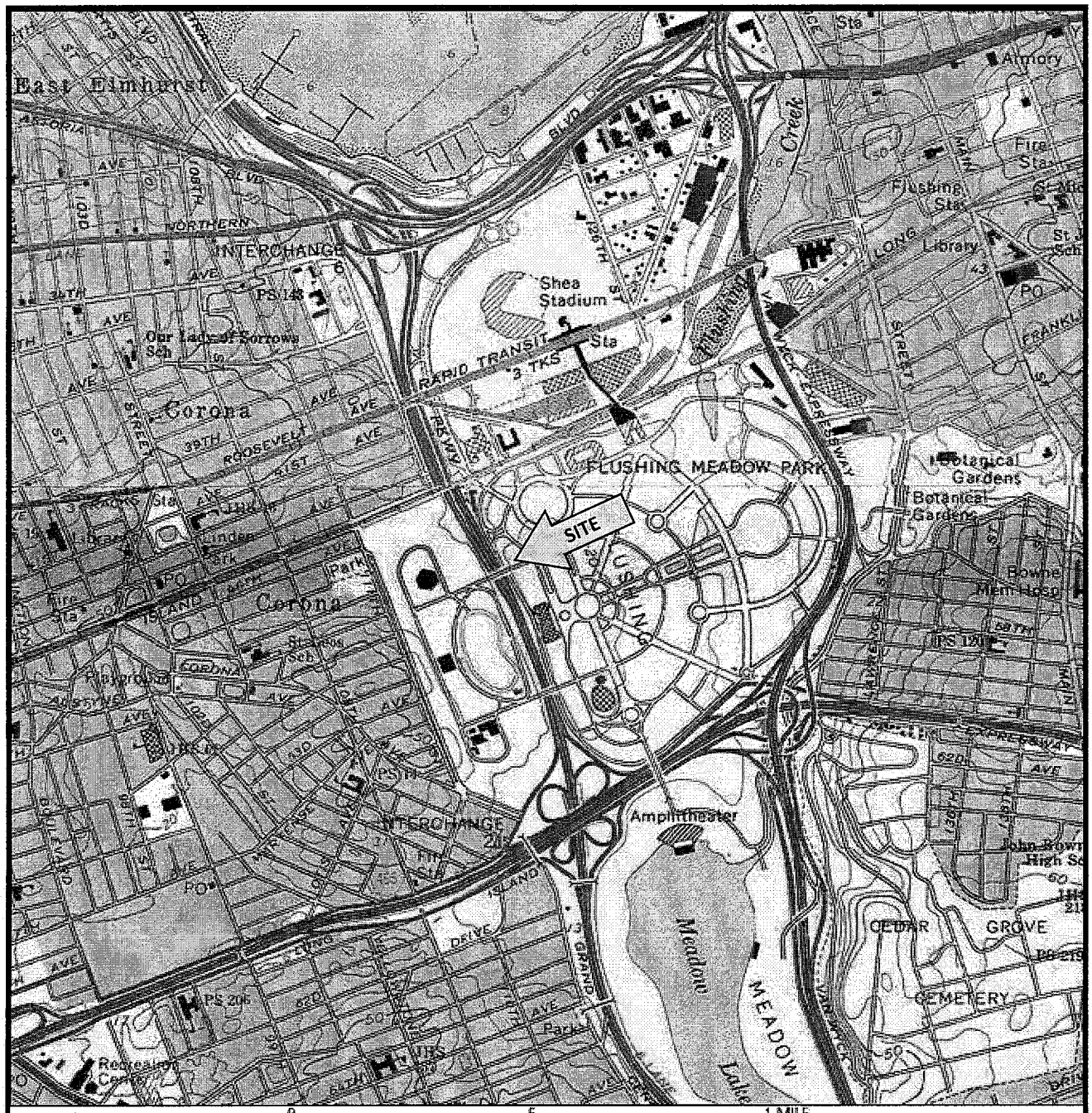
FIGURES



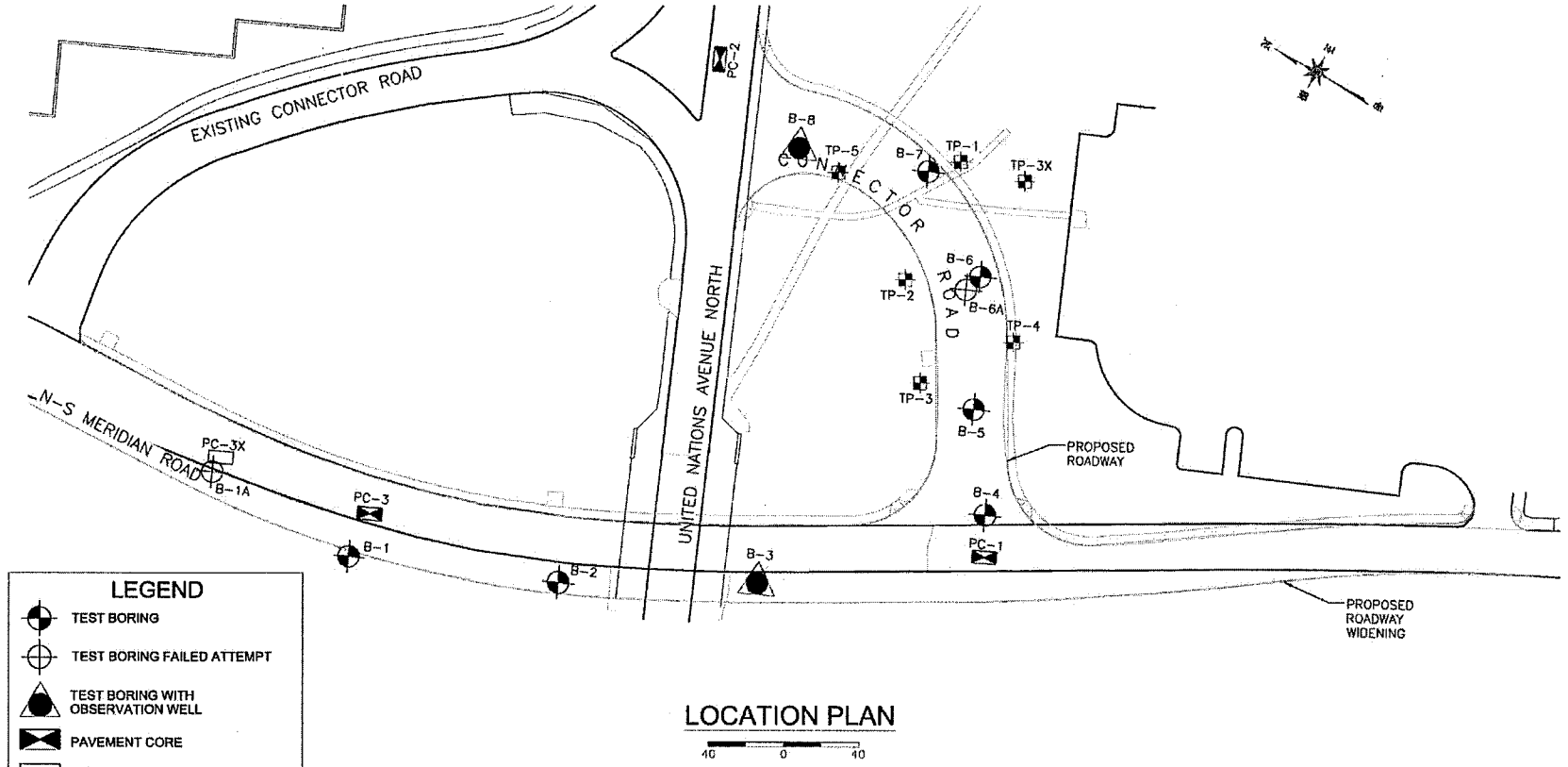
PARSONS BRINCKERHOFF

UNITED STATES TENNIS ASSOCIATION

USGS Topographic Map 7.5 Minute Series
Jamaica, New York
Quadrangle 1995

FIGURE 1: SITE LOCATION & TOPOGRAHPIC MAP
United States Tennis Association
USTA UN Avenue Connector Road Relocation
Queens, New York

Client:	United States Tennis Association
Date:	June 14, 2013
Project No.:	183893A
Map By:	Greg Cellamare



PARSONS BRINCKERHOFF

UNITED STATES TENNIS ASSOCIATION

FIGURE 2: BORING LOCATION MAP

Client:	United States Tennis Association
Project:	USTA UN Avenue Connector Road Relocation, Queens, New York
Date:	June 14, 2013
Project No.:	183893A
Map By:	Greg Cellamare

TABLES

TABLE 7

SOIL - VOLITILE ORGANIC COMPOUNDS - SAMPLING RESULTS SUMMARY TABLE

UNITED STATES TENNIS ASSOCIATION

USTA UN AVENUE CONNECTOR ROAD RELOCATION

QUEENS, NEW YORK

USTA UN Avenue Connector Road Relocation Queens, New York	NYSDEC Part 375 Unrestricted Use SCOs[1]	Soil Results B-1X (10-12 GRAB)	Soil Results B-2 (10-12 GRAB)	Soil Results B-6 (10-12 GRAB)	Soil Results B-8 (10-12 GRAB)
Chemical	(µg/L)	07-May-13	10-May-13	03-May-13	02-May-13
1,1,1,2-Tetrachloroethane	NA	ND	ND	ND	ND
1,1,1-Trichloroethane	0.00068	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	NA	ND	ND	ND	ND
1,1,2-Trichloro-1,2,2-trifluoroethane	NA	ND	ND	ND	ND
1,1,2-Trichloroethane	NA	ND	ND	ND	ND
1,1-Dichloroethane	0.00027	ND	ND	ND	ND
1,1-Dichloroethylene	0.00033	ND	ND	ND	ND
1,1-Dichloropropylene	NA	ND	ND	ND	ND
1,2,3-Trichlorobenzene	NA	ND	ND	ND	ND
1,2,3-Trichloropropane	NA	ND	ND	ND	ND
1,2,4-Trichlorobenzene	NA	ND	ND	ND	ND
1,2,4-Trimethylbenzene	0.0036	ND	ND	ND	ND
1,2-Dibromo-3-chloropropane	NA	ND	ND	ND	ND
1,2-Dibromoethane	NA	ND	ND	ND	ND
1,2-Dichlorobenzene	0.0011	ND	ND	ND	ND
1,2-Dichloroethane	0.00002	ND	ND	ND	ND
1,2-Dichloropropane	NA	ND	ND	ND	ND
1,3,5-Trimethylbenzene	0.0084	ND	ND	ND	ND
1,3-Dichlorobenzene	0.0024	ND	ND	ND	ND
1,3-Dichloropropane	NA	ND	ND	ND	ND
1,4-Dichlorobenzene	0.0018	ND	ND	ND	ND
1,4-Dioxane	0.0001	ND	ND	ND	ND
2,2-Dichloropropane	NA	ND	ND	ND	ND
2-Butanone	0.00012	ND	**6.7**	ND	ND
2-Chlorotoluene	NA	ND	ND	ND	ND
4-Chlorotoluene	NA	ND	ND	ND	ND
Acetone	0.00005	ND	**20**	ND	**3.2 (J,B)**
Benzene	0.00006	ND	ND	ND	ND
Bromobenzene	NA	ND	ND	ND	ND
Bromochloromethane	NA	ND	ND	ND	ND
Bromodichloromethane	NA	ND	ND	ND	ND
Bromoform	NA	ND	ND	ND	ND
Bromomethane	NA	ND	ND	ND	ND
Carbon tetrachloride	0.00076	ND	ND	ND	ND
Chlorobenzene	0.0011	ND	ND	ND	ND

TABLE 7
SOIL - VOLITILE ORGANIC COMPOUNDS - SAMPLING RESULTS SUMMARY TABLE
UNITED STATES TENNIS ASSOCIATION
USTA UN AVENUE CONNECTOR ROAD RELOCATION
QUEENS, NEW YORK

USTA UN Avenue Connector Road Relocation Queens, New York	NYSDEC Part 375 Unrestricted Use SCOs[1]	Soil Results B-1X (10-12 GRAB)	Soil Results B-2 (10-12 GRAB)	Soil Results B-6 (10-12 GRAB)	Soil Results B-8 (10-12 GRAB)
Chemical	(µg/L)	07-May-13	10-May-13	03-May-13	02-May-13
Chloroethane	NA	ND	ND	ND	ND
Chloroform	0.00037	ND	ND	ND	ND
Chloromethane	NA	ND	ND	ND	ND
cis-1,2-Dichloroethylene	0.00025	ND	ND	ND	ND
cis-1,3-Dichloropropylene	NA	ND	ND	ND	ND
Dibromochloromethane	NA	ND	ND	ND	ND
Dibromomethane	NA	ND	ND	ND	ND
Dichlorodifluoromethane	NA	ND	ND	ND	ND
Ethyl Benzene	0.001	ND	ND	ND	ND
Hexachlorobutadiene	NA	ND	ND	ND	ND
Isopropylbenzene	NA	ND	ND	ND	ND
Methyl tert-butyl ether (MTBE)	0.00093	ND	ND	ND	ND
Methylene chloride	0.00005	ND	ND	ND	ND
Naphthalene	NA	ND	ND	ND	ND
n-Butylbenzene	0.011	ND	ND	ND	ND
n-Propylbenzene	0.0039	ND	ND	ND	ND
o-Xylene	NA	ND	ND	ND	ND
p- & m- Xylenes	NA	ND	ND	ND	ND
p-Isopropyltoluene	NA	ND	ND	ND	ND
sec-Butylbenzene	NA	ND	ND	ND	ND
Styrene	NA	ND	ND	ND	ND
tert-Butylbenzene	0.0059	ND	ND	ND	ND
Tetrachloroethylene	0.0013	ND	ND	ND	ND
Toluene	0.0007	ND	ND	ND	ND
trans-1,2-Dichloroethylene	0.00019	ND	ND	ND	ND
trans-1,3-Dichloropropylene	NA	ND	ND	ND	ND
Trichloroethylene	0.00047	ND	ND	ND	ND
Trichlorofluoromethane	NA	ND	ND	ND	ND
Vinyl Chloride	0.00002	ND	ND	ND	ND
Xylenes, Total	0.00026	ND	ND	ND	ND
Vinyl acetate	NA	ND	ND	ND	ND

TABLE 7

SOIL - VOLITILE ORGANIC COMPOUNDS - SAMPLING RESULTS SUMMARY TABLE

UNITED STATES TENNIS ASSOCIATION

USTA UN AVENUE CONNECTOR ROAD RELOCATION

QUEENS, NEW YORK

USTA UN Avenue Connector Road Relocation Queens, New York	NYSDEC Part 375 Unrestricted Use SCOs[1]	Soil Results B-1X (10-12 GRAB)	Soil Results B-2 (10-12 GRAB)	Soil Results B-6 (10-12 GRAB)	Soil Results B-8 (10-12 GRAB)
Chemical	(µg/L)	07-May-13	10-May-13	03-May-13	02-May-13

Notes:

All results are in micrograms per liter (µg/L).

1 - New York State Department of Environmental Conservation Part 375 Unrestricted Use Soil Cleanup Objectives

NA - A criteria or guidance value is currently unavailable for this chemical

ND - Not detected above laboratory minimum detection limit (MDL)

J - Detected below the Reporting Limit but greater than or equal to the Method Detection Limit (MDL); therefore, the result is

B - Analyte is found in the associated analysis batch blank. For volatiles, methylene chloride and acetone are common lab contaminants. Data users should consider anything <10x the blank value as artifact.

Exceeds applicable criteria or guidance value

TABLE 8

SOIL - SEMI-VOLITILE ORGANIC COMPOUNDS - SAMPLING RESULTS SUMMARY TABLE

UNITED STATES TENNIS ASSOCIATION

USTA UN AVENUE CONNECTOR ROAD RELOCATION

QUEENS, NEW YORK

USTA UN Avenue Connector Road Relocation Queens, New York	NYSDEC Part 375 Unrestricted Use SCOs[1]	Soil Results B-1 (0-10 COMP)	Soil Results B-2 (0-22 COMP)	Soil Results B-3 (0-22 COMP)	Soil Results B-6 (0-22 COMP)	Soil Results B-8 (0-22 COMP)
Chemical	(µg/L)	07-May-13	10-May-13	06-May-13	03-May-13	02-May-13
Acenaphthene	0.02	ND	ND	ND	ND	ND
Acenaphthylene	0.1	ND	ND	ND	ND	ND
Aniline	NA	ND	ND	ND	ND	ND
Anthracene	0.1	ND	904 (J)	ND	ND	ND
Benzo(a)anthracene	0.001	ND	4,220	ND	1,040 (J)	611 (J)
Benzo(a)pyrene	0.001	585 (J)	4,140	ND	1,230	634
Benzo(b)fluoranthene	0.001	ND	3,240	ND	1,240	ND
Benzo(g,h,i)perylene	0.1	ND	2,290	ND	379 (J)	ND
Benzyl alcohol	NA	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	0.0008	ND	3,500	ND	ND	ND
Benzyl butyl phthalate	NA	ND	ND	ND	ND	ND
4-Bromophenyl phenyl ether	NA	ND	ND	ND	ND	ND
4-Chloro-3-methylphenol	NA	ND	ND	ND	ND	ND
4-Chloroaniline	NA	ND	ND	ND	ND	ND
Bis(2-chloroethoxy)methane	NA	ND	ND	ND	ND	ND
Bis(2-chloroethyl)ether	NA	ND	ND	ND	ND	ND
Bis(2-chloroisopropyl)ether	NA	ND	ND	ND	ND	ND
Bis(2-ethylhexyl)phthalate	NA	ND	ND	ND	ND	ND
2-Chloronaphthalene	NA	ND	ND	ND	ND	ND
2-Chlorophenol	NA	ND	ND	ND	ND	ND
4-Chlorophenyl phenyl ether	NA	ND	ND	ND	ND	ND
Chrysene	0.001	517 (J)	4,330	ND	1,190	645
Dibenzo(a,h)anthracene	0.00033	ND	1,150 (J)	ND	ND	ND
Dibenzofuran	NA	ND	ND	ND	ND	ND
Di-n-butyl phthalate	NA	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	NA	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	NA	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	NA	ND	ND	ND	ND	ND
3,3'-Dichlorobenzidine	NA	ND	ND	ND	ND	ND
2,4-Dichlorophenol	NA	ND	ND	ND	ND	ND
Diethyl phthalate	NA	ND	ND	ND	ND	ND
2,4-Dimethylphenol	NA	ND	ND	ND	ND	ND
Dimethyl phthalate	NA	ND	ND	ND	ND	ND
4,6-Dinitro-2-methylphenol	NA	ND	ND	ND	ND	ND
2-Nitroaniline	NA	ND	ND	ND	ND	ND

TABLE 8

SOIL - SEMI-VOLITILE ORGANIC COMPOUNDS - SAMPLING RESULTS SUMMARY TABLE

UNITED STATES TENNIS ASSOCIATION

USTA UN AVENUE CONNECTOR ROAD RELOCATION

QUEENS, NEW YORK

USTA UN Avenue Connector Road Relocation Queens, New York	NYSDEC Part 375 Unrestricted Use SCOs[1]	Soil Results B-1 (0-10 COMP)	Soil Results B-2 (0-22 COMP)	Soil Results B-3 (0-22 COMP)	Soil Results B-6 (0-22 COMP)	Soil Results B-8 (0-22 COMP)
Chemical	(µg/L)	07-May-13	10-May-13	06-May-13	03-May-13	02-May-13
2,4-Dinitrophenol	NA	ND	ND	ND	ND	ND
2,6-Dinitrotoluene	NA	ND	ND	ND	ND	ND
2,4-Dinitrotoluene	NA	ND	ND	ND	ND	ND
Di-n-octyl phthalate	NA	ND	ND	ND	ND	ND
Fluoranthene	0.1	**817**	**5,690**	ND	**1,300**	**1,020 (J)**
Fluorene	0.03	ND	ND	ND	ND	ND
Hexachlorobenzene	NA	ND	ND	ND	ND	ND
Hexachlorobutadiene	NA	ND	ND	ND	ND	ND
Hexachlorocyclopentadiene	NA	ND	ND	ND	ND	ND
Hexachloroethane	NA	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	0.0005	ND	**2,320**	ND	ND	ND
Isophorone	NA	ND	ND	ND	ND	ND
2-Methylnaphthalene	NA	ND	ND	ND	ND	ND
2-Methylphenol	0.00033	ND	ND	ND	ND	ND
3- & 4-Methylphenols	NA	ND	ND	ND	ND	ND
Naphthalene	0.012	ND	ND	ND	ND	ND
3-Nitroaniline	NA	ND	ND	ND	ND	ND
4-Nitroaniline	NA	ND	ND	ND	ND	ND
Nitrobenzene	NA	ND	ND	ND	ND	ND
4-Nitrophenol	NA	ND	ND	ND	ND	ND
2-Nitrophenol	NA	ND	ND	ND	ND	ND
N-nitroso-di-n-propylamine	NA	ND	ND	ND	ND	ND
N-Nitrosodimethylamine	NA	ND	ND	ND	ND	ND
N-Nitrosodiphenylamine	NA	ND	ND	ND	ND	ND
Pentachlorophenol	0.0008	ND	ND	ND	ND	ND
Phenanthrene	0.1	ND	**3,940**	ND	ND	**609 (J)**
Phenol	0.00033	ND	ND	ND	ND	ND
Pyrene	0.1	**827 (J)**	**6,960**	ND	**1,290**	**1,010 (J)**
Pyridine	NA	ND	ND	ND	ND	ND
1,2,4-Trichlorobenzene	NA	ND	ND	ND	ND	ND
2,4,5-Trichlorophenol	NA	ND	ND	ND	ND	ND
2,4,6-Trichlorophenol	NA	ND	ND	ND	ND	ND

TABLE 8

SOIL - SEMI-VOLITILE ORGANIC COMPOUNDS - SAMPLING RESULTS SUMMARY TABLE

UNITED STATES TENNIS ASSOCIATION

USTA UN AVENUE CONNECTOR ROAD RELOCATION

QUEENS, NEW YORK

USTA UN Avenue Connector Road Relocation Queens, New York	NYSDEC Part 375 Unrestricted Use SCOs[1]	Soil Results B-1 (0-10 COMP)	Soil Results B-2 (0-22 COMP)	Soil Results B-3 (0-22 COMP)	Soil Results B-6 (0-22 COMP)	Soil Results B-8 (0-22 COMP)
Chemical	(µg/L)	07-May-13	10-May-13	06-May-13	03-May-13	02-May-13

Notes:

All results are in micrograms per liter (µg/L).

NA - A criteria or guidance value is currently unavailable for this chemical

ND - Not detected above laboratory minimum detection limit (MDL)

J - Detected below the Reporting Limit but greater than or equal to the Method Detection Limit (MDL); therefore, the result is an estimated concentration.

1 - New York State Department of Environmental Conservation Part 375 Unrestricted Use Soil Cleanup Objectives

Exceeds applicable criteria or guidance value

TABLE 9
SOIL - TOTAL METALS - SAMPLING RESULTS SUMMARY TABLE
UNITED STATES TENNIS ASSOCIATION
USTA UN AVENUE CONNECTOR ROAD RELOCATION
QUEENS, NEW YORK

USTA UN Avenue Connector Road Relocation Queens, New York	NYSDEC Part 375 Unrestricted Use SCOs[1]	Soil Results B-1 (0-10 COMP)	Soil Results B-2 (0-22 COMP)	Soil Results B-3 (0-22 COMP)	Soil Results B-6 (0-22 COMP)	Soil Results B-8 (0-22 COMP)
Chemical	(mg/L)	07-May-13	10-May-13	06-May-13	03-May-13	02-May-13
Aluminum	NA	6,230	6,330	5,440	7,330	5,610
Antimony	NA	1.89	31.1	32.4	12.1	6.10
Arsenic	13	8.12	**26.9**	**44.0**	**27.0**	**17.0**
Barium	350	210	**1,080**	**1,200**	**732**	**719**
Beryllium	7.2	ND	ND	ND	ND	ND
Cadmium	2.5	ND	**2.52**	**6.55**	1.80	2.15
Calcium	NA	5,550	11,700	22,400	6,190	24,800
Chromium, total	30 / 1[2]	19.4	**46.0**	**42.4**	**35.2**	26.6
Cobalt	NA	6.40	5.82	11.0	9.07	8.95
Copper	50	**107**	**371**	**940**	**504**	**1,990**
Iron	NA	15,500	38,200	80,900	36,900	57,400
Lead	63	**366**	**3,420**	**3,860**	**1,260**	**1,350**
Magnesium	NA	1,980	2,900	1,830	3,310	2,550
Manganese	1,600	225	487	678	358	334
Nickel	30	20.6	26.9	28.8	**47.8**	26.7
Potassium	NA	588	483	820	967	626
Selenium	3.9	2.06	**5.65**	2.57	3.85	3.07
Silver	2	ND	1.74	**17.2**	ND	ND
Sodium	NA	244	617	600	293	511
Thallium	NA	ND	ND	ND	ND	ND
Vanadium	NA	21.8	19.9	27.0	29.4	22.6
Zinc	109	**411**	**1,440**	**3,230**	**1,280**	**1,770**
Mercury	0.18	ND	ND	ND	0.173	ND

Notes:
All results are in milligram per liter (mg/L).
NA - A criteria or guidance value is currently unavailable for this chemical.
ND - Not detected above laboratory minimum detection limit (MDL)
1 - New York State Department of Environmental Conservation Part 375 Unrestricted Use Soil Cleanup Objectives

2 - The SCO for this family of compounds is considered to be met if the analysis for the total species of this contaminant is below the specific SCO (1 mg/L is the SCO for hexavalent chromium and 30 mg/L is the SCO for trivalent chromium).

Exceeds applicable criteria or guidance value

TABLE 10

SOIL - PESTICIDES, HERBICIDES & PCBs - SAMPLING RESULTS SUMMARY TABLE

UNITED STATES TENNIS ASSOCIATION

USTA UN AVENUE CONNECTOR ROAD RELOCATION

QUEENS, NEW YORK

USTA UN Avenue Connector Road Relocation Queens, New York	NYSDEC Part 375 Unrestricted Use SCOs[1]	Soil Results B-1 (0-10 COMP)	Soil Results B-2 (0-22 COMP)	Soil Results B-3 (0-22 COMP)	Soil Results B-6 (0-22 COMP)	Soil Results B-8 (0-22 COMP)
Chemical	(mg/L)	07-May-13	10-May-13	06-May-13	03-May-13	02-May-13
Toxaphene	NA	ND	ND	ND	ND	ND
Methoxychlor	NA	ND	ND	ND	ND	ND
Heptachlor epoxide	NA	ND	ND	ND	ND	ND
Heptachlor	0.042	0.0202	ND	ND	ND	ND
gamma-BHC (Lindane)	0.1	ND	ND	ND	ND	ND
Endrin ketone	NA	ND	ND	ND	ND	ND
Endrin aldehyde	NA	ND	ND	ND	ND	ND
Endrin	0.014	ND	ND	ND	ND	ND
Endosulfan sulfate	2.4[2]	ND	ND	ND	ND	ND
Endosulfan II	2.4[2]	ND	ND	ND	ND	ND
Endosulfan I	2.4[2]	ND	ND	ND	ND	ND
Dieldrin	0.005	ND	ND	ND	ND	ND
delta-BHC	0.04	ND	ND	ND	ND	ND
Chlordane, total	0.094	**1.18**	ND	ND	ND	ND
beta-BHC	0.036	ND	ND	ND	ND	ND
alpha-BHC	0.02	ND	ND	ND	ND	ND
Aldrin	0.005	ND	ND	ND	ND	ND
4,4'-DDT	0.0033	**0.0249**	**0.00568**	ND	**0.00671**	**0.0168**
4,4'-DDE	0.0033	**0.0154**	ND	ND	**0.00837**	**0.0102**
4,4'-DDD	0.0033	ND	ND	ND	ND	ND
2,4-D	NA	ND	ND	ND	ND	ND
2,4,5-TP (Silvex)	3.8	ND	ND	ND	ND	ND
2,4,5-T	NA	ND	ND	ND	ND	ND
PCBs						
Aroclor 1260	0.1[3]	ND	ND	ND	ND	ND
Aroclor 1254	0.1[3]	ND	ND	ND	ND	ND
Aroclor 1248	0.1[3]	ND	ND	ND	ND	ND
Aroclor 1242	0.1[3]	ND	ND	ND	ND	ND
Aroclor 1232	0.1[3]	ND	ND	ND	ND	ND
Aroclor 1221	0.1[3]	ND	ND	ND	ND	ND
Aroclor 1016	0.1[3]	ND	ND	ND	ND	ND
Total PCBs	0.1	ND	ND	ND	ND	ND

TABLE 10

SOIL - PESTICIDES, HERBICIDES & PCBs - SAMPLING RESULTS SUMMARY TABLE

UNITED STATES TENNIS ASSOCIATION

USTA UN AVENUE CONNECTOR ROAD RELOCATION

QUEENS, NEW YORK

USTA UN Avenue Connector Road Relocation Queens, New York	NYSDEC Part 375 Unrestricted Use SCOs[1]	Soil Results B-1 (0-10 COMP)	Soil Results B-2 (0-22 COMP)	Soil Results B-3 (0-22 COMP)	Soil Results B-6 (0-22 COMP)	Soil Results B-8 (0-22 COMP)
Chemical	(mg/L)	07-May-13	10-May-13	06-May-13	03-May-13	02-May-13

Notes:

All results are in milligrams per liter (mg/L).

NA - A criteria or guidance value is currently unavailable for this chemical

ND - Not detected above laboratory minimum detection limit (MDL)

1 - New York State Department of Environmental Conservation Part 375 Unrestricted Use Soil Cleanup Objectives

2 - SCO is the sum of endosulfan I, endosulfan II and endosulfan sulfate

3 - Standard applies to the sum of all PCB cogeners

Exceeds applicable criteria or guidance value

TABLE 11
GROUNDWATER - VOLITILE ORGANIC COMPOUNDS - SAMPLING RESULTS SUMMARY TABLE
UNITED STATES TENNIS ASSOCIATION
USTA UN AVENUE CONNECTOR ROAD RELOCATION
QUEENS, NEW YORK

USTA UN Avenue Connector Road Relocation Queens, New York	NYSDEC TOGS 1.1.1 Class GA Criteria[1]	Groundwater Results B-8 GW
Chemical	(µg/L)	08-May-13
1,1,1,2-Tetrachlorethane	5	ND
1,1,1-Trichloroethane	5	ND
1,1,2,2-Tetrachloroethane	5	ND
1,2-Trichloro-1,2,2-trifluoroethane	5	ND
1,1,2-Trichloroethane	1	ND
1,1-Dichloroethane	5	ND
1,1-Dichloroethene	5	ND
1,1-Dichloropropylene	5	ND
1,2,3-Trichlorobenzene	5	ND
1,2,3-Trichloropropane	5	ND
1,2,4-Trichlorobenzene	5	ND
1,2,4-Trimethylbenzene	5	ND
1,2-Dibromo-3-Chloropropane	0.04	ND
1,2-Dibromoethane	0.0006	ND
1,2-Dichlorobenzene	3	ND
1,2-Dichloroethane	0.6	ND
1,2-Dichloropropane	1	ND
1,3,5-Trimethylbenzene	5	ND
1,3-Dichlorobenzene	3	ND
1,3-Dichloropropane	5	ND
1,4-Dichlorobenzene	3	ND
2,2-Dichloropropane	5	ND
2-Butanone (Methyl ethyl ketone)	50[2]	ND
2-Chlorotoluene	5	ND
4-Chlorotoluene	5	ND
Acetone	50[2]	5.9 (B)
Benzene	1	ND
Bromobenzene	5	ND
Bromochloromethane	5	ND
Bromodichloromethane	50[2]	ND
Bromoform	50[2]	ND
Bromomethane	5	ND
Carbon Tetrachloride	5	ND
Chlorobenzene	5	ND
Chloroethane	5	ND
Chloroform	7	ND

TABLE 11
GROUNDWATER - VOLITILE ORGANIC COMPOUNDS - SAMPLING RESULTS SUMMARY TABLE
UNITED STATES TENNIS ASSOCIATION
USTA UN AVENUE CONNECTOR ROAD RELOCATION
QUEENS, NEW YORK

USTA UN Avenue Connector Road Relocation Queens, New York	NYSDEC TOGS 1.1.1 Class GA Criteria[1]	Groundwater Results B-8 GW
Chemical	(µg/L)	08-May-13
Chloromethane	5	ND
cis-1,2-Dichloroethene	5	ND
cis-1,3-Dichloropropene	0.4[3]	ND
Dibromochloromethane	50[2]	ND
Dibromomethane	5	ND
Dichlorodifluoromethane	5	ND
Ethyl Benzene	5	ND
Hexachlorobutadiene	0.5	ND
Isopropylbenzene (Cumene)	5	ND
Methyl tert-butyl ether	10	ND
Methylene Chloride	5	2.6 (J,B)
Naphthalene	10[2]	ND
n-Butylbenzene	5	ND
n-Propylbenzene	5	ND
o-Xylene	5[4]	ND
p- & m-Xylenes	5[4]	ND
p-Isopropyltoluene	5	ND
sec-Butlybenzene	5	ND
Styrene	5	ND
tert-Butylbenzene	5	ND
Tetrachloroethene	5	ND
Toluene	5	ND
trans-1,2-Dichloroethene	5	ND
trans-1,3-Dichloropropene	0.4[3]	ND
Trichloroethene	5	ND
Trichlorofluoromethane	5	ND
Vinyl chloride	2	ND
Xylenes, Total	5	ND

TABLE 11

GROUNDWATER - VOLITILE ORGANIC COMPOUNDS - SAMPLING RESULTS SUMMARY TABLE

UNITED STATES TENNIS ASSOCIATION

USTA UN AVENUE CONNECTOR ROAD RELOCATION

QUEENS, NEW YORK

USTA UN Avenue Connector Road Relocation Queens, New York	NYSDEC TOGS 1.1.1 Class GA Criteria[1]	Groundwater Results B-8 GW
Chemical	(µg/L)	08-May-13

Notes:

All results are in micrograms per liter (µg/L).

ND - Not detected above laboratory minimum detection limit (MDL)

J - Detected below the Reporting Limit but greater than or equal to the Method Detection Limit (MDL); therefore, the

B - Analyte is found in the associated analysis batch blank. For volatiles, methylene chloride and acetone are common lab contaminants. Data users should consider anything <10x the blank value as artifact.

1 - New York State Department of Environmental Protection Technical and Administrative Guidance Series 1.1.1 - AMBIENT WATER QUALITY STANDARDS AND GUIDANCE VALUES AND GROUNDWATER EFFLUENT LIMITATIONS

2 - A guidance value may be used where a standard for a substance or group of substances has not been established for a particular water class and type of value. Guidance values have not been promulgated and placed into regulation.

3 - Standard applies to the sum of cis- and trans-1,3-dichloropropene

4 - Standard applies to the sum of o-, p- & m-Xylenes.

Exceeds applicable criteria or guidance value

TABLE 12
GROUNDWATER - SEMI-VOLATILE ORGANIC COMPOUNDS - SAMPLING RESULTS SUMMARY TABLE
UNITED STATES TENNIS ASSOCIATION
USTA UN AVENUE CONNECTOR ROAD RELOCATION
QUEENS, NEW YORK

USTA UN Avenue Connector Road Relocation Queens, New York	NYSDEC TOGS 1.1.1 Class GA Criteria[1]	Groundwater Results B-8 GW
Chemical	(µg/L)	08-May-13
Acenaphthene	20[2]	ND
Acenaphthylene	NA	ND
Analine	5	ND
Anthracene	50[2]	ND
Benzo(a)anthracene	0.002[2]	ND
Benzo(a)pyrene	ND	ND
Benzo(b)fluoranthene	0.002[2]	ND
Benzyl alcohol	NA	ND
Benzo(g,h,i)perylene	NA	ND
Benzo(k)fluoranthene	0.002[2]	ND
Benzyl butyl phthalate	50[2]	ND
4-Bromophenyl phenyl ether	NA	ND
4-Chloro-3-methyl phenol	NA	ND
4-Chloroaniline	5	ND
Bis(2-chloroethoxy)methane	5	ND
Bis(2-chloroethyl)ether	1	ND
Bis(2-chloroisopropyl)ether	5	ND
Bis(2-ethylhexyl)phthalate	5	ND
2-Chloronaphthalene	10[2]	ND
2-Chlorophenol	NA	ND
4-Chlorophenyl phenyl ether	NA	ND
Chrysene	0.002[2]	ND
Dibenz(a,h)anthracene	NA	ND
Dibenzofuran	NA	ND
Di-n-butylphthalate	50	ND
1,2-Dichlorobenzene	3	ND
1,3-Dichlorobenzene	3	ND
1,4-Dichlorobenzene	3	ND
3,3'-Dichlorobenzidine	5	ND
2,4-Dichlorophenol	NA[3]	ND
Diethylphthalate	50[2]	ND
2,4-Dimethylphenol	50[2]	ND
Dimethylphthalate	50[2]	ND
4,6-Dinitro-2-methylphenol	NA	ND
2,4-Dinitrophenol	10[2]	ND

TABLE 12
GROUNDWATER - SEMI-VOLATILE ORGANIC COMPOUNDS - SAMPLING RESULTS SUMMARY TABLE
UNITED STATES TENNIS ASSOCIATION
USTA UN AVENUE CONNECTOR ROAD RELOCATION
QUEENS, NEW YORK

USTA UN Avenue Connector Road Relocation Queens, New York	NYSDEC TOGS 1.1.1 Class GA Criteria[1]	Groundwater Results B-8 GW
Chemical	(µg/L)	08-May-13
2,6-Dinitrotoluene	5	ND
2,4-Dinitrotoluene	5	ND
Di-n-octylphthalate	50[2]	ND
Fluoranthene	50[2]	ND
Fluorene	50[2]	ND
Hexachlorobenzene	0.04	ND
Hexachlorobutadiene	0.5	ND
Hexachlorocyclopentadiene	5	ND
Hexachloroethane	5	ND
Indeno(1,2,3-cd)pyrene	0.002[2]	ND
Isophorone	50[2]	ND
2-Methylnaphthalene	NA	ND
3- & 4-Methylphenols	NA	ND
2-Methylphenol	NA	ND
Naphthalene	10[2]	ND
4-Nitroaniline	5	ND
3-Nitroaniline	5	ND
2-Nitroaniline	5	ND
Nitrobenzene	0.4	ND
2-Nitrophenol	NA	ND
4-Nitrophenol	NA	ND
N-Nitrosodi-n-propylamine	NA	ND
N-Nitrodimethylamine	NA	ND
N-Nitrosodiphenylamine	50[2]	ND
Pentachlorophenol	1	ND
Phenanthrene	50[2]	ND
Phenol	1	ND
Pyrene	50[2]	ND
Pyridine	50[2]	ND
1,2,4-Trichlorobenzene	5	ND
2,4,6-Trichlorophenol	NA	ND
2,4,5-Trichlorophenol	NA	ND

TABLE 12
GROUNDWATER - SEMI-VOLATILE ORGANIC COMPOUNDS - SAMPLING RESULTS SUMMARY TABLE
UNITED STATES TENNIS ASSOCIATION
USTA UN AVENUE CONNECTOR ROAD RELOCATION
QUEENS, NEW YORK

USTA UN Avenue Connector Road Relocation Queens, New York	NYSDEC TOGS 1.1.1 Class GA Criteria[1]	Groundwater Results B-8 GW
Chemical	(µg/L)	08-May-13

Notes:
All results are in micrograms per liter (µg/L).
ND - Not detected above laboratory minimum detection limit (MDL)
NA - No standard or guidance value has been published
J - Detected below the Reporting Limit but greater than or equal to the Method Detection Limit (MDL); therefore, the
B - Analyte is found in the associated analysis batch blank. For volatiles, methylene chloride and acetone are common lab contaminants. Data users should consider anything <10x the blank value as artifact.
1 - New York State Department of Environmental Protection Technical and Administrative Guidance Series 1.1.1 - AMBIENT WATER QUALITY STANDARDS AND GUIDANCE VALUES AND GROUNDWATER EFFLUENT LIMITATIONS
2 - A guidance value may be used where a standard for a substance or group of substances has not been established for a particular water class and type of value. Guidance values have not been promulgated and placed into regulation.
3 - This substance did not receive a review beyond determining that it is in a principal organic contaminant class and that it does not have a more stringent Specific MCL.

Exceeds applicable criteria or guidance value

TABLE 13
GROUNDWATER - TOTAL METALS - SAMPLING RESULTS SUMMARY TABLE
UNITED STATES TENNIS ASSOCIATION
USTA UN AVENUE CONNECTOR ROAD RELOCATION
QUEENS, NEW YORK

USTA UN Avenue Connector Road Relocation Queens, New York	NYSDEC TOGS 1.1.1 Class GA Criteria[1]	Groundwater Results B-8 GW
Chemical	(µg/L)	08-May-13
Aluminum	NA	1,060
Antimony	3	ND
Arsenic	25	5
Barium	1,000	**1,080**
Beryllium	3[2]	ND
Cadmium	5	ND
Calcium	NA	136,000
Chromium	50[2]	8
Cobalt	NA	ND
Copper	200	41
Iron	300	**22,800**
Lead	25	**151**
Magnesium	35,000[2]	**74,800**
Manganese	300	**382**
Nickel	100	ND
Potassium	NA	68,700
Selenium	10	10
Silver	50	ND
Sodium	20,000	**487,000**
Thallium	0.5[2]	ND
Vanadium	NA	ND
Zinc	2,000[2]	156
Mercury	0.7	ND

Notes:
All results are in micrograms per liter (µg/L).
NA - A criteria or guidance value is currently unavailable for this chemical.
ND - Not detected above laboratory minimum detection limit (MDL)
B - Analyte is found in the associated analysis batch blank. For volatiles, methylene chloride and acetone are common lab contaminants. Data users should consider anything <10x the blank value as artifact.
1 - New York State Department of Environmental Protection Technical and Administrative Guidance Series 1.1.1 - AMBIENT WATER QUALITY STANDARDS AND GUIDANCE VALUES AND GROUNDWATER EFFLUENT LIMITATIONS
2 - A guidance value may be used where a standard for a substance or group of substances has not been established for a particular water class and type of value. Guidance values have not been promulgated and placed into regulation.

Exceeds applicable criteria or guidance value

TABLE 14
GROUNDWATER - DISSOLVED METALS - SAMPLING RESULTS SUMMARY TABLE
UNITED STATES TENNIS ASSOCIATION
USTA UN AVENUE CONNECTOR ROAD RELOCATION
QUEENS, NEW YORK

USTA UN Avenue Connector Road Relocation Queens, New York	NYSDEC TOGS 1.1.1 Class GA Criteria[1]	Groundwater Results B-8 GW
Chemical	(µg/L)	08-May-13
Aluminum	NA	ND
Antimony	3	ND
Arsenic	25	ND
Barium	1,000	546
Beryllium	3[2]	ND
Cadmium	5	ND
Calcium	NA	126,000
Chromium	50[2]	ND
Cobalt	NA	ND
Copper	200	6
Iron	300	92
Lead	25	3
Magnesium	35,000[2]	**70,200**
Manganese	300	**319**
Nickel	100	ND
Potassium	NA	67,200
Selenium	10	**14**
Silver	50	ND
Sodium	20,000	**476,000**
Thallium	0.5[2]	ND
Vanadium	NA	ND
Zinc	2,000[2]	26
Mercury	0.7	ND

Notes:
All results are in micrograms per liter (µg/L).
NA - A criteria or guidance value is currently unavailable for this chemical.
ND - Not detected above laboratory minimum detection limit (MDL)
B - Analyte is found in the associated analysis batch blank. For volatiles, methylene chloride and acetone are common lab contaminants. Data users should consider anything <10x the blank value as artifact.
1 - New York State Department of Environmental Protection Technical and Administrative Guidance Series 1.1.1 - AMBIENT WATER QUALITY STANDARDS AND GUIDANCE VALUES AND GROUNDWATER EFFLUENT LIMITATIONS
2 - A guidance value may be used where a standard for a substance or group of substances has not been established for a particular water class and type of value. Guidance values have not been promulgated and placed into regulation.

Exceeds applicable criteria or guidance value

TABLE 15
GROUNDWATER - PESTICIDES, HERBICIDES & PCBs - SAMPLING RESULTS SUMMARY TABLE
UNITED STATES TENNIS ASSOCIATION
USTA UN AVENUE CONNECTOR ROAD RELOCATION
QUEENS, NEW YORK

USTA UN Avenue Connector Road Relocation Queens, New York	NYSDEC TOGS 1.1.1 Class GA Criteria[1]	Groundwater Results B-8 GW
Chemical	(µg/L)	08-May-13
Pesticides		
4,4'-DDD	0.3	ND
4,4'-DDE	0.2	ND
4,4'-DDT	0.2	ND
Aldrin	ND	ND
alpha-BHC	0.01	ND
Chlordane, total	0.05	ND
beta-BHC	0.04	ND
delta-BHC	0.04	ND
Dieldrin	0.004	ND
Endosulfan I	NA	ND
Endosulfan II	NA	ND
Endosulfan sulfate	NA	ND
Endrin	ND	ND
Endrin aldehyde	5	ND
Endrin ketone	5	ND
gamma-BHC (Lindane)	0.05	ND
Heptachlor	0.04	ND
Heptachlor epoxide	0.03	ND
Methoxychlor	35	ND
Toxaphene	0.06	ND
2,4-D	50	ND
2,4,5-TP (Silvex)	0.26	ND
2,4,5-T	35	ND
PCBs		
Aroclor-1260	0.09[2]	ND
Aroclor-1254	0.09[2]	ND
Aroclor-1248	0.09[2]	ND
Aroclor-1242	0.09[2]	ND
Aroclor-1232	0.09[2]	ND
Aroclor-1221	0.09[2]	ND
Aroclor-1016	0.09[2]	ND

TABLE 15

GROUNDWATER - PESTICIDES, HERBICIDES & PCBs - SAMPLING RESULTS SUMMARY TABLE

UNITED STATES TENNIS ASSOCIATION

USTA UN AVENUE CONNECTOR ROAD RELOCATION

QUEENS, NEW YORK

USTA UN Avenue Connector Road Relocation Queens, New York	NYSDEC TOGS 1.1.1 Class GA Criteria[1]	Groundwater Results B-8 GW
Chemical	(µg/L)	08-May-13

Notes:

All results are in micrograms per liter (µg/L).

NA - A criteria or guidance value is currently unavailable for this chemical.

ND - Not detected above laboratory minimum detection limit (MDL)

1 - New York State Department of Environmental Protection Technical and Administrative Guidance Series 1.1.1 - AMBIENT WATER QUALITY STANDARDS AND GUIDANCE VALUES AND GROUNDWATER EFFLUENT LIMITATIONS

2 - Applies to the sum of these substances

Exceeds applicable criteria or guidance value

APPENDIX A

GEOLOGIC FIELD LOGS & WELL DEVELOPMENT DATA

GEOLOGIC BORING LOG

PARSONS BRINCKERHOFF

	CLIENT: USTA
	PROJECT: USTA - UN Ave Connector Road Relocation
	PROJECT NO.: 183893A
BORING NO.: B1	LOCATION: Queens, NY
RIG: CME 750 Mud Auger	CONTRACTOR: Jersey Boring & Drilling Company, Inc.
DATE START: 5/7/13	APPROX. DEPTH TO WATER (fbg): 10' - 12'
DATE FINISH: 5/7/13	PB GEOLOGIST/ENGINEER: Charlie Wildman & Robert Jensen

DEPTH (FBG)	SAMPLE				MATERIAL DESCRIPTION	PID (PPM)
	NO.	TYPE	BLOWS	REC. (in)		
0 - 6	1	Hand	NA	NA	Dark brown fine to coarse silty SAND, little to some fine Gravel, trace Brick	0.0
6 - 8	2	SS	NA	8	Dark brown fine to coarse silty SAND, little to some fine Gravel, trace Brick	0.0
8 - 10	3	SS	NA	9	Dark brown fine to coarse silty SAND, little to some fine Gravel, trace Brick	0.0
10 - 12	4	SS	NA	7	Grey SILT and CLAY, some fine Gravel; Groundwater encountered; Stop composite sampling.	0.0
15 - 17	5	SS	NA	0	No recovery	0.0
20 - 22	6	SS	NA	12	Grey SILT and CLAY, some fine Gravel, trace Brick, trace anthropogenic particle (possibly leather).	0.0
25 - 27	7	SS	NA	24	Grey CLAY, trace Muscle and Snail Shells, organic odor.	0.0
35 - 37	8	SS	NA	24	Grey CLAY, organic odor.	0.0
					Boring Complete	

COMMENTS:

B1 was relocated ~ 75' south southwest of the location on the drawing due to hand clearing refusal (5 times) proximate to B1 as shown on drawing. Also, the driller questioned utility mark outs after driving a ~oon 8', felt unexpected resistance and thought he may be on a gas line. For blow count information ease see the geotechnical report presented under seperate cover. All soils were classified in accordance with the Burmeister Classfication System.

PB PROJECT NUMBER: 183893A

BORING NUMBER: B1

GEOLOGIC BORING LOG

PARSONS BRINCKERHOFF

CLIENT: US Tennis Association

PROJECT: USTA - UN Ave Connector Road Relocation

PROJECT NO.: 183893A

BORING NO.: B1-X	LOCATION: Queens, NY
RIG: CME 750 Mud Auger	CONTRACTOR: Jersey Boring & Drilling Company, Inc.
DATE START: 5/7/13	APPROX. DEPTH TO WATER (fbg): Unknown, groundwater not encountered
DATE FINISH: 5/7/13	PB GEOLOGIST/ENGINEER: Charlie Wildman & Robert Jensen

DEPTH (FBG)	SAMPLE				MATERIAL DESCRIPTION	PID (PPM)
	NO.	TYPE	BLOWS	REC. (in)		
0 - 6	1	Hand	NA	NA	Dark brown fine to coarse silty SAND, little to some Gravel, trace Brick.	0.0
6 - 8	2	SS	NA	14	Dark brown fine to coarse silty SAND, little to some Gravel trace Brick and Cinders. Grab Sample Taken.	0.0
					Boring Abandoned	

COMMENTS:

B1-X was abandoned due to proximity to a gas line. The driller encountered resistance at 8 fbg and noted that two gas main valves formed a line intersecting with the boring location. For blow count information please see the geotechnical report presented under seperate cover. All soils were classified in accordance with the Burmeister Classfication System.

PB PROJECT NUMBER: 183893A

BORING NUMBER: B1-X

GEOLOGIC BORING LOG

PARSONS BRINCKERHOFF

CLIENT: US Tennis Association

PROJECT: USTA - UN Ave Connector Road Relocation

PROJECT NO.: 183893A

BORING NO.: B2

LOCATION: Queens, NY

RIG: CME 750 Mud Auger

CONTRACTOR: Jersey Boring & Drilling Company, Inc.

DATE START: 5/7/13

APPROX. DEPTH TO WATER (fbg): Unknown. introduction of drilling fluid made water level indeterminable.

DATE FINISH: 5/10/13

PB GEOLOGIST/ENGINEER: Charlie Wildman & Robert Jensen

DEPTH (FBG)	SAMPLE				MATERIAL DESCRIPTION	PID (PPM)
	NO.	TYPE	BLOWS	REC. (in)		
0 - 6	1	Hand	NA	NA	Dark brown fine to coarse silty SAND, little to some fine to coarse Gravel, trace Brick and Glass.	0.0
6 - 8	2	SS	NA	3	Dark brown fine to coarse silty SAND, little to some fine Gravel, trace Brick and Cinders.	0.7
8 - 10	3	SS	NA	5	Dark brown fine to coarse silty SAND, little to some fine Gravel, trace Brick and Cinders.	0.9
10 - 12	4	SS	NA	24	Top 1/8 - Dark brown fine to coarse silty SAND, little to some Gravel, trace Brick and Cinders. Bottom 7/8 - Grey CLAY. Grab sample taken.	0.5
15 - 17	5	SS	NA	6	Dark grey silty SAND, some Clay, little fine Gravel.	0.3
20 - 22	6	SS	NA	5	Dark grey silty SAND, some Clay, little fine Gravel. Stop compositing.	0.0
25 - 27	7	SS	NA	10	Top 4" - Dark grey silty SAND, some Clay, little fine Gravel. Bottom 6" - Dark grey CL:AY and little fine Gravel.	0.3
30 - 32	8	SS	NA	24	Grey CLAY. Organic odor.	0.0
35 - 37	9	SS	NA	24	Grey CLAY, trace Gravel, trace Shells and Wood.	0.0
40 - 42	10	SS	NA	20	Grey CLAY, trace Gravel and Shells.	0.0
45 - 47	11	S. Tube	NA	29	Grey CLAY.	0.0
					Environmental screening complete. Geotechnical boring continues	

COMMENTS:

The PID was reading 0.3 - 0.5 ppm in fresh air from 6 - 12 fbg. The PID was recalibrated and read 0.0 ppm in fresh air thereafter. For blow count information please see the geotechnical report presented under seperate cover. All soils were classified in accordance with the Burmeister Classfication System.

PB PROJECT NUMBER: 183893A

BORING NUMBER: B2

GEOLOGIC BORING LOG

PARSONS BRINCKERHOFF

CLIENT: US Tennis Association

PROJECT: USTA - UN Ave Connector Road Relocation

PROJECT NO.: 183893A

BORING NO.: B3 | LOCATION: Queens, NY

RIG: CME 750 Mud Auger | CONTRACTOR: Jersey Boring & Drilling Company, Inc.

DATE START: 5/3/13 | DEPTH TO WATER (fbg): 9.3

DATE FINISH: 5/6/13 | PB GEOLOGIST/ENGINEER: Charlie Wildman & Robert Jensen

DEPTH (FBG)	SAMPLE				MATERIAL DESCRIPTION	PID (PPM)
	NO.	TYPE	BLOWS	REC. (in)		
0 - 6	1	Hand	NA	NA	Dark brown fine to coarse silty SAND, little coarse Gravel, trace Brick.	0.0
6 - 8	2	SS	NA	7	Dark brown fine to coarse silty SAND, little fine Gravel.	0.0
8 - 10	3	SS	NA	8	Dark brown fine to coarse silty SAND, little fine Gravel, trace Brick.	0.0
10 - 12	4	SS	NA	18	Top half - Dark brown fine to coarse silty SAND, little Gravel, trace Brick. Bottom half - Dark grey fine GRAVEL, some Silt, Sand and Clay.	0.0
15 - 17	5	SS	NA	8	Dk grey fine GRAVEL, some Silt, Sand and Clay, trace Glass and Ceramics.	0.0
20 - 22	6	SS	NA	3	Dark grey fine GRAVEL, some Silt and Clay, trace Glass and Ceramics.	0.0
25 - 27	7	SS	NA	24	Top 4" - Dark grey fine GRAVEL, some Silt, Clay and Sand, trace Glass and Ceramics. Bottom 20" - Grey CLAY, some fine Gravel; organic odor.	0.0
30 - 32	8	SS	NA	15	Grey CLAY; organic odor.	0.0
35 - 37	9	SS	NA	24	Grey CLAY; organic odor.	0.0
					Boring Complete	

COMMENTS:

For blow count information please see the geotechnical report presented under seperate cover. All soils were classified in accordance with the Burmeister Classfication System.

PB PROJECT NUMBER: 183893A

BORING NUMBER: B3

GEOLOGIC BORING LOG

PARSONS BRINCKERHOFF

CLIENT: US Tennis Association

PROJECT: USTA - UN Ave Connector Road Relocation

PROJECT NO.: 183893A

BORING NO.: B6

LOCATION: Queens, NY

RIG: CME 750 Mud Auger

CONTRACTOR: Jersey Boring & Drilling Company, Inc.

DATE START: 5/3/13

APPROX. DEPTH TO WATER (fbg): Unknown. introduction of drilling fluid made water level indeterminable.

DATE FINISH: 5/3/13

PB GEOLOGIST/ENGINEER: Charlie Wildman & Robert Jensen

DEPTH (FBG)	SAMPLE				MATERIAL DESCRIPTION	PID (PPM)
	NO.	TYPE	BLOWS	REC. (in)		
0 - 6	1	Hand	NA	NA	Dark brown fine to coarse silty SAND, little Fine to coarse Gravel, trace Brick.	0.0
6 - 8	2	SS	NA	12	Dark brown fine to coarse silty SAND, little Fine to coarse Gravel, trace Brick and Cinders.	0.0
8 - 10	3	SS	NA	2	Dark brown fine to coarse silty SAND, little fine Gravel, trace Brick.	0.0
10 - 12	4	SS	NA	9	Dark brown fine to coarse silty SAND, little Fine to coarse Gravel, trace Brick. Grab taken	0.0
15 - 17	5	SS	NA	6	Dark brown fine to coarse silty SAND, little fine gravel, trace brick, wood and Glass.	0.0
20 - 22	6	SS	NA	6	Dark brown fine to coarse silty SAND, little fine gravel, trace cinders.	0.0
25 - 27	7	SS	NA	9	Dark brown fine to coarse silty SAND, little fine Gravel, trace cinders.	0.0
30 - 32	8	SS	NA	6	Fine GRAVEL and CINDERS.	0.0
35 - 37	9	SS	NA	0	No recovery	0.0
40 - 42	10	SS	NA	13	Black SAND, some Silt and Clay, trace Glass and Cinders, slight hydrocarbon odor.	0.0
45 - 47	11	SS	NA	24	Grey CLAY. hydrocarbon odor.	0.0
					Boring complete	

COMMENTS:

Slight hydrocarbon odor from 40 - 47 fbg. For blow count information please see the geotechnical report presented under seperate cover. All soils were classified in accordance with the Burmeister Classfication System.

PB PROJECT NUMBER: 183893A

BORING NUMBER: B6

GEOLOGIC BORING LOG

PARSONS BRINCKERHOFF

CLIENT: US Tennis Association

PROJECT: USTA - UN Ave Connector Road Relocation

PROJECT NO.: 183893A

BORING NO.: B8 | LOCATION: Queens, NY

RIG: CME 750 Mud Auger | CONTRACTOR: Jersey Boring & Drilling Company, Inc.

DATE START: 5/2/13 | DEPTH TO WATER (fbg): 21.2

DATE FINISH: 5/2/13 | PB GEOLOGIST/ENGINEER: Charlie Wildman & Robert Jensen

DEPTH (FBG)	SAMPLE NO.	SAMPLE TYPE	BLOWS	REC. (in)	MATERIAL DESCRIPTION	PID (PPM)
0 - 6	1	Hand	NA	NA	Dark brown fine to coarse silty SAND, little fine to coarse Gravel, trace Brick.	0.0
6 - 8	2	SS	NA	0	No recovery	0.0
8 - 10	3	SS	NA	6	Dark brown fine to coarse silty SAND, little fine gravel, trace ceramics.	0.0
10 - 12	4	SS	NA	15	Dark brown fine to coarse silty SAND, little fine Gravel, trace Brick. Grab taken.	0.0
15 - 17	5	SS	NA	4	Dark brown fine to coarse silty SAND, little fine Gravel, trace Brick.	0.0
20 - 22	6	SS	NA	9	Dark brown fine to coarse silty SAND, little fine Gravel, trace Brick and Cinders. Stop composite sampling.	0.0
25 - 27	7	SS	NA	11	Dark brown to black fine to coarse SAND, trace Silt and Clay.	0.0
30 - 32	8	SS	NA	2	Dark brown to black fine to coarse SAND, little Silt and Clay, trace Wood.	0.0
35 - 37	9	SS	NA	6	Dark brown to black fine to coarse SAND, trace Silt and Clay.	0.0
40 - 42	10	SS	NA	0	No recovery	0.0
45 - 47	11	SS	NA	22	Top 4" - Dark brown to black fine to coarse SAND, trace Silt and Clay. Bottom 18" - Grey CLAY.	0.0
					Boring complete	

COMMENTS:

For blow count information please see the geotechnical report presented under seperate cover. All soils were classified in accordance with the Burmeister Classfication System.

PB PROJECT NUMBER: 183893A

BORING NUMBER: B8

WELL DEVELOPMENT DATA

Well ID	Development Date:	Well Development Method (check one):			
B-3 OW	7-May-13	☐ Other (describe)	☐ Surge/Pump	☑ Pump	☐ Compressed Air

Development Pump Type (check):				Depth to Groundwater (before developing in feet):
☐ Centrifugal	☐ Peristaltic	☑ Submersible	☐ Other	Not measured

Pumping Rate (gallons per minute):	Max Drawdown During Development (ft):	Well Purged Dry (check one):	
Approximately 1 gallon per minute	Not measured	☐ Yes	☑ No

Pumping Conditions (check one):		Water Removed (gallons):	Development Duration (min.):	Water Drummed:	
☑ Continuous	☐ Intermittent	Approximately 55 gallons	Approximately 60 minutes	☐ Yes	☑ No

Water Appearance (color and odor) At Start of Development:	Water Appearance (color and odor) At End of Development:
Highly turbid - dark brown	Slightly Turbid

WELL DEVELOPMENT DATA

Well ID	Development Date:	Well Development Method (check one):			
B-8 OW	7-May-13	☐ Other (describe)	☐ Surge/Pump	☑ Pump	☐ Compressed Air

Development Pump Type (check):	Depth to Groundwater (before developing in feet):
☐ Centrifugal ☐ Peristaltic ☑ Submersible ☐ Other	Not measured

Pumping Rate (gallons per minute):	Max Drawdown During Development (ft):	Well Purged Dry (check one):
Approximately 0.5 gallon per minute	Not measured	☐ Yes ☑ No

Pumping Conditions (check one):	Water Removed (gallons):	Development Duration (min.):	Water Drummed:
☑ Continuous ☐ Intermittent	Approximately 25 gallons	Approximately 30 minutes	☐ Yes ☑ No

Water Appearance (color and odor) At Start of Development:	Water Appearance (color and odor) At End of Development:
Highly turbid - dark brown	Slightly Turbid

APPENDIX B

LABORATORY ANALYTICAL DATA REPORTS

Technical Report

prepared for:

PB Americas, Inc.
One Penn Plaza, 2nd Floor
New York NY, 10119
Attention: Greg Cellamare

Report Date: 05/16/2013
Client Project ID: 183893A
York Project (SDG) No.: 13E0380

CT Cert. No. PH-0723 New Jersey Cert. No. CT-005 NELAP ACCREDITED LABORATORY New York Cert. No. 10854 PA Cert. No. 68-04440

120 RESEARCH DRIVE STRATFORD, CT 06615 (203) 325-1371 FAX (203) 357-0166

Report Date: 05/16/2013
Client Project ID: 183893A
York Project (SDG) No.: 13E0380

PB Americas, Inc.
One Penn Plaza, 2nd Floor
New York NY, 10119
Attention: Greg Cellamare

Purpose and Results

This report contains the analytical data for the sample(s) identified on the attached chain-of-custody received in our laboratory on May 09, 2013 and listed below. The project was identified as your project: **183893A**.

The analyses were conducted utilizing appropriate EPA, Standard Methods, and ASTM methods as detailed in the data summary tables.

All samples were received in proper condition meeting the customary acceptance requirements for environmental samples except those indicated under the Notes section of this report.

All analyses met the method and laboratory standard operating procedure requirements except as indicated by any data flags, the meaning of which are explained in the attachment to this report, and case narrative if applicable.

The results of the analyses, which are all reported on dry weight basis (soils) unless otherwise noted, are detailed in the following pages.

lease contact Client Services at 203.325.1371 with any questions regarding this report.

York Sample ID	Client Sample ID	Matrix	Date Collected	Date Received
13E0380-01	B1 0-10 Comp	Soil	05/07/2013	05/09/2013
13E0380-02	B3 0-22 Comp	Soil	05/06/2013	05/09/2013
13E0380-03	B6 0-22 Comp	Soil	05/03/2013	05/09/2013
13E0380-04	B8 0-22 Comp	Soil	05/02/2013	05/09/2013
13E0380-05	B8 Grab 10-12	Soil	05/02/2013	05/09/2013
13E0380-06	B1-X Grab 6-8	Soil	05/07/2013	05/09/2013
13E0380-07	B6 Grab 10-12	Soil	05/03/2013	05/09/2013
13E0380-08	B8 GW	Water	05/08/2013	05/09/2013

General Notes for York Project (SDG) No.: 13E0380

1. The RLs and MDLs (Reporting Limit and Method Detection Limit respectively) reported are adjusted for any dilution necessary due to the levels of target and/or non-target analytes and matrix interference. The RL(REPORTING LIMIT) is based upon the lowest standard utilized for the calibration where applicable.
2. Samples are retained for a period of thirty days after submittal of report, unless other arrangements are made.
3. York's liability for the above data is limited to the dollar value paid to York for the referenced project.
4. This report shall not be reproduced without the written approval of York Analytical Laboratories, Inc.
5. All samples were received in proper condition for analysis with proper documentation, unless otherwise noted.
6. All analyses conducted met method or Laboratory SOP requirements. See the Qualifiers and/or Narrative sections for further information.
7. It is noted that no analyses reported herein were subcontracted to another laboratory, unless noted in the report.
8. This report reflects results that relate only to the samples submitted on the attached chain-of-custody form(s) received by York.

Approved By: 

Date: 05/16/2013

Benjamin Gulizia
Laboratory Director

YORK

Sample Information

Client Sample ID: B1 0-10 Comp

York Sample ID: 13E0380-01

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
13E0380	183893A	Soil	May 7, 2013 12:10 pm	05/09/2013

Semi-Volatiles, 8270 Target List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550B

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
83-32-9	Acenaphthene	ND		ug/kg dry	353	975	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:24	SR
208-96-8	Acenaphthylene	ND		ug/kg dry	468	975	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:24	SR
62-53-3	Aniline	ND		ug/kg dry	558	975	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:24	SR
120-12-7	Anthracene	ND		ug/kg dry	532	975	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:24	SR
56-55-3	Benzo(a)anthracene	ND		ug/kg dry	365	975	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:24	SR
50-32-8	Benzo(a)pyrene	**585**	J	ug/kg dry	386	975	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:24	SR
205-99-2	Benzo(b)fluoranthene	ND		ug/kg dry	817	975	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:24	SR
191-24-2	Benzo(g,h,i)perylene	ND		ug/kg dry	324	975	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:24	SR
100-51-6	Benzyl alcohol	ND		ug/kg dry	975	975	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:24	SR
207-08-9	Benzo(k)fluoranthene	ND		ug/kg dry	975	975	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:24	SR
8-7	Benzyl butyl phthalate	ND		ug/kg dry	538	975	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:24	SR
-55-3	4-Bromophenyl phenyl ether	ND		ug/kg dry	470	975	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:24	SR
59-50-7	4-Chloro-3-methylphenol	ND		ug/kg dry	657	975	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:24	SR
106-47-8	4-Chloroaniline	ND		ug/kg dry	254	975	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:24	SR
111-91-1	Bis(2-chloroethoxy)methane	ND		ug/kg dry	335	975	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:24	SR
111-44-4	Bis(2-chloroethyl)ether	ND		ug/kg dry	497	975	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:24	SR
108-60-1	Bis(2-chloroisopropyl)ether	ND		ug/kg dry	343	975	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:24	SR
117-81-7	Bis(2-ethylhexyl)phthalate	ND		ug/kg dry	673	975	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:24	SR
91-58-7	2-Chloronaphthalene	ND		ug/kg dry	527	975	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:24	SR
95-57-8	2-Chlorophenol	ND		ug/kg dry	322	975	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:24	SR
7005-72-3	4-Chlorophenyl phenyl ether	ND		ug/kg dry	571	975	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:24	SR
218-01-9	Chrysene	**517**	J	ug/kg dry	449	975	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:24	SR
53-70-3	Dibenzo(a,h)anthracene	ND		ug/kg dry	392	975	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:24	SR
132-64-9	Dibenzofuran	ND		ug/kg dry	454	975	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:24	SR
84-74-2	Di-n-butyl phthalate	ND		ug/kg dry	396	975	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:24	SR
95-50-1	1,2-Dichlorobenzene	ND		ug/kg dry	638	975	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:24	SR
106-46-7	1,4-Dichlorobenzene	ND		ug/kg dry	601	975	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:24	SR
541-73-1	1,3-Dichlorobenzene	ND		ug/kg dry	308	975	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:24	SR
91-94-1	3,3'-Dichlorobenzidine	ND		ug/kg dry	511	975	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:24	SR
120-83-2	2,4-Dichlorophenol	ND		ug/kg dry	796	975	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:24	SR
-2	Diethyl phthalate	ND		ug/kg dry	612	975	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:24	SR
105-67-9	2,4-Dimethylphenol	ND		ug/kg dry	683	975	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:24	SR

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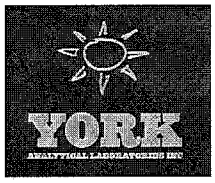

Sample Information

Client Sample ID: B1 0-10 Comp

York Sample ID: 13E0380-01

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
13E0380	183893A	Soil	May 7, 2013 12:10 pm	05/09/2013

Semi-Volatiles, 8270 Target List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550B

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
131-11-3	Dimethyl phthalate	ND		ug/kg dry	435	975	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:24	SR
88-74-4	2-Nitroaniline	ND		ug/kg dry	850	975	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:24	SR
534-52-1	4,6-Dinitro-2-methylphenol	ND		ug/kg dry	1230	1950	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:24	SR
51-28-5	2,4-Dinitrophenol	ND		ug/kg dry	819	1950	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:24	SR
606-20-2	2,6-Dinitrotoluene	ND		ug/kg dry	501	975	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:24	SR
121-14-2	2,4-Dinitrotoluene	ND		ug/kg dry	431	975	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:24	SR
117-84-0	Di-n-octyl phthalate	ND		ug/kg dry	975	975	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:24	SR
206-44-0	Fluoranthene	**817**	J	ug/kg dry	571	975	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:24	SR
86-73-7	Fluorene	ND		ug/kg dry	468	975	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:24	SR
118-74-1	Hexachlorobenzene	ND		ug/kg dry	575	975	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:24	SR
87-68-3	Hexachlorobutadiene	ND		ug/kg dry	330	975	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:24	SR
77-47-4	Hexachlorocyclopentadiene	ND		ug/kg dry	726	975	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:24	SR
67-72-1	Hexachloroethane	ND		ug/kg dry	279	975	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:24	SR
193-39-5	Indeno(1,2,3-cd)pyrene	ND		ug/kg dry	445	975	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:24	SR
78-59-1	Isophorone	ND		ug/kg dry	335	975	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:24	SR
91-57-6	2-Methylnaphthalene	ND		ug/kg dry	749	975	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:24	SR
95-48-7	2-Methylphenol	ND		ug/kg dry	371	975	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:24	SR
65794-96-9	3- & 4-Methylphenols	ND		ug/kg dry	423	975	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:24	SR
91-20-3	Naphthalene	ND		ug/kg dry	240	975	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:24	SR
99-09-2	3-Nitroaniline	ND		ug/kg dry	969	975	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:24	SR
100-01-6	4-Nitroaniline	ND		ug/kg dry	404	975	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:24	SR
98-95-3	Nitrobenzene	ND		ug/kg dry	287	975	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:24	SR
100-02-7	4-Nitrophenol	ND		ug/kg dry	367	975	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:24	SR
88-75-5	2-Nitrophenol	ND		ug/kg dry	265	975	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:24	SR
621-64-7	N-nitroso-di-n-propylamine	ND		ug/kg dry	326	975	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:24	SR
62-75-9	N-Nitrosodimethylamine	ND		ug/kg dry	400	975	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:24	SR
86-30-6	N-Nitrosodiphenylamine	ND		ug/kg dry	441	975	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:24	SR
87-86-5	Pentachlorophenol	ND		ug/kg dry	735	975	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:24	SR
85-01-8	Phenanthrene	ND		ug/kg dry	509	975	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:24	SR
108-95-2	Phenol	ND		ug/kg dry	421	975	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:24	SR
129-00-0	Pyrene	**827**	J	ug/kg dry	398	975	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:24	SR
110-86-1	Pyridine	ND		ug/kg dry	685	975	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:24	SR

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Sample Information

Client Sample ID: B1 0-10 Comp

York Sample ID: 13E0380-01

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
13E0380	183893A	Soil	May 7, 2013 12:10 pm	05/09/2013

Semi-Volatiles, 8270 Target List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550B

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
120-82-1	1,2,4-Trichlorobenzene	ND		ug/kg dry	353	975	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:24	SR
95-95-4	2,4,5-Trichlorophenol	ND		ug/kg dry	757	975	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:24	SR
88-06-2	2,4,6-Trichlorophenol	ND		ug/kg dry	495	975	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:24	SR
	Surrogate Recoveries	**Result**		**Acceptance Range**							
5175-83-7	*Surrogate: 2,4,6-Tribromophenol*	*72.7 %*		*15-110*							
321-60-8	*Surrogate: 2-Fluorobiphenyl*	*51.7 %*		*30-130*							
367-12-4	*Surrogate: 2-Fluorophenol*	*40.7 %*		*15-110*							
4165-60-0	*Surrogate: Nitrobenzene-d5*	*49.9 %*		*30-130*							
4165-62-2	*Surrogate: Phenol-d5*	*39.5 %*		*15-110*							
1718-51-0	*Surrogate: Terphenyl-d14*	*63.2 %*		*30-130*							

Pesticides/PCBs, EPA TCL List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550B

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
8001-35-2	Toxaphene	ND		ug/kg dry	97.7	97.7	5	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 10:32	JW
72-43-5	Methoxychlor	ND		ug/kg dry	9.65	9.65	5	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 10:32	JW
1024-57-3	Heptachlor epoxide	ND		ug/kg dry	1.93	1.93	5	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 10:32	JW
76-44-8	Heptachlor	**20.2**		ug/kg dry	1.93	1.93	5	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 10:32	JW
58-89-9	gamma-BHC (Lindane)	ND		ug/kg dry	1.93	1.93	5	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 10:32	JW
53494-70-5	Endrin ketone	ND		ug/kg dry	1.93	1.93	5	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 10:32	JW
7421-93-4	Endrin aldehyde	ND		ug/kg dry	1.93	1.93	5	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 10:32	JW
72-20-8	Endrin	ND		ug/kg dry	1.93	1.93	5	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 10:32	JW
1031-07-8	Endosulfan sulfate	ND		ug/kg dry	1.93	1.93	5	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 10:32	JW
33213-65-9	Endosulfan II	ND		ug/kg dry	1.93	1.93	5	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 10:32	JW
959-98-8	Endosulfan I	ND		ug/kg dry	1.93	1.93	5	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 10:32	JW
60-57-1	Dieldrin	ND		ug/kg dry	1.93	1.93	5	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 10:32	JW
319-86-8	delta-BHC	ND		ug/kg dry	1.93	1.93	5	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 10:32	JW
57-74-9	Chlordane, total	**1180**		ug/kg dry	7.72	7.72	5	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 10:32	JW
319-85-7	beta-BHC	ND		ug/kg dry	1.93	1.93	5	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 10:32	JW
319-84-6	alpha-BHC	ND		ug/kg dry	1.93	1.93	5	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 10:32	JW
309-00-2	Aldrin	ND		ug/kg dry	1.93	1.93	5	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 10:32	JW
50-29-3	4,4'-DDT	**24.9**		ug/kg dry	1.93	1.93	5	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 10:32	JW
72-55-9	4,4'-DDE	**15.4**		ug/kg dry	1.93	1.93	5	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 10:32	JW
-8	4,4'-DDD	ND		ug/kg dry	1.93	1.93	5	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 10:32	JW
11096-82-5	Aroclor 1260	ND		ug/kg dry	19.9	19.9	1	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 15:56	JW

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Sample Information

Client Sample ID: B1 0-10 Comp **York Sample ID:** 13E0380-01

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
13E0380	183893A	Soil	May 7, 2013 12:10 pm	05/09/2013

Pesticides/PCBs, EPA TCL List

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550B

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
11097-69-1	Aroclor 1254	ND		ug/kg dry	19.9	19.9	1	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 15:56	JW
12672-29-6	Aroclor 1248	ND		ug/kg dry	19.9	19.9	1	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 15:56	JW
53469-21-9	Aroclor 1242	ND		ug/kg dry	19.9	19.9	1	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 15:56	JW
11141-16-5	Aroclor 1232	ND		ug/kg dry	19.9	19.9	1	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 15:56	JW
11104-28-2	Aroclor 1221	ND		ug/kg dry	19.9	19.9	1	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 15:56	JW
12674-11-2	Aroclor 1016	ND		ug/kg dry	19.9	19.9	1	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 15:56	JW
1336-36-3	Total PCBs	ND		ug/kg dry	7.96	19.9	1	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 15:56	JW

	Surrogate Recoveries	Result	Acceptance Range
877-09-8	*Surrogate: Tetrachloro-m-xylene*	*83.5 %*	*30-150*
2051-24-3	*Surrogate: Decachlorobiphenyl*	*70.9 %*	*30-150*

Herbicides, Target List

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550B/8151A

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
94-75-7	2,4-D	ND		ug/kg dry	23.4	23.4	1	EPA SW846-8151B	05/13/2013 08:08	05/14/2013 13:01	JW
93-72-1	2,4,5-TP (Silvex)	ND		ug/kg dry	23.4	23.4	1	EPA SW846-8151B	05/13/2013 08:08	05/14/2013 13:01	JW
93-76-5	2,4,5-T	ND		ug/kg dry	23.4	23.4	1	EPA SW846-8151B	05/13/2013 08:08	05/14/2013 13:01	JW

	Surrogate Recoveries	Result	Acceptance Range
19719-28-9	*Surrogate: 2,4-Dichlorophenylacetic acia*	*71.2 %*	*28.3-149*

Metals, Target Analyte

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3050B

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7429-90-5	Aluminum	**6230**		mg/kg dry	1.19	2.34	1	EPA SW846-6010B	05/13/2013 09:29	05/13/2013 12:00	MW
7440-36-0	Antimony	**1.89**		mg/kg dry	0.257	0.585	1	EPA SW846-6010B	05/13/2013 09:29	05/13/2013 12:00	MW
7440-38-2	Arsenic	**8.12**		mg/kg dry	0.398	1.17	1	EPA SW846-6010B	05/13/2013 09:29	05/13/2013 12:00	MW
7440-39-3	Barium	**210**		mg/kg dry	0.152	0.585	1	EPA SW846-6010B	05/13/2013 09:29	05/13/2013 12:00	MW
7440-41-7	Beryllium	ND		mg/kg dry	0.117	0.117	1	EPA SW846-6010B	05/13/2013 09:29	05/13/2013 12:00	MW
7440-43-9	Cadmium	ND		mg/kg dry	0.117	0.585	1	EPA SW846-6010B	05/13/2013 09:29	05/13/2013 12:00	MW
7440-70-2	Calcium	**5550**		mg/kg dry	0.047	5.85	1	EPA SW846-6010B	05/13/2013 09:29	05/13/2013 12:00	MW
7440-47-3	Chromium	**19.4**		mg/kg dry	0.140	0.585	1	EPA SW846-6010B	05/13/2013 09:29	05/13/2013 12:00	MW
7440-48-4	Cobalt	**6.40**		mg/kg dry	0.094	0.585	1	EPA SW846-6010B	05/13/2013 09:29	05/13/2013 12:00	MW
7440-50-8	Copper	**107**		mg/kg dry	0.140	0.585	1	EPA SW846-6010B	05/13/2013 09:29	05/13/2013 12:00	MW
7439-89-6	Iron	**15500**		mg/kg dry	0.761	2.34	1	EPA SW846-6010B	05/13/2013 09:29	05/13/2013 12:00	MW
7439-92-1	Lead	**366**		mg/kg dry	0.199	0.351	1	EPA SW846-6010B	05/13/2013 09:29	05/13/2013 12:00	MW
7439-95-4	Magnesium	**1980**		mg/kg dry	0.527	5.85	1	EPA SW846-6010B	05/13/2013 09:29	05/13/2013 12:00	MW

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Sample Information

Client Sample ID: B1 0-10 Comp **York Sample ID:** 13E0380-01

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
13E0380	183893A	Soil	May 7, 2013 12:10 pm	05/09/2013

Metals, Target Analyte

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3050B

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7439-96-5	Manganese	**225**		mg/kg dry	0.129	1.17	1	EPA SW846-6010B	05/13/2013 09:29	05/13/2013 12:00	MW
7440-02-0	Nickel	**20.6**		mg/kg dry	0.152	0.585	1	EPA SW846-6010B	05/13/2013 09:29	05/13/2013 12:00	MW
7440-09-7	Potassium	**588**		mg/kg dry	3.96	11.7	1	EPA SW846-6010B	05/13/2013 09:29	05/13/2013 12:00	MW
7782-49-2	Selenium	**2.06**		mg/kg dry	0.585	0.585	1	EPA SW846-6010B	05/13/2013 09:29	05/13/2013 12:00	MW
7440-22-4	Silver	ND		mg/kg dry	0.117	0.585	1	EPA SW846-6010B	05/13/2013 09:29	05/13/2013 12:00	MW
7440-23-5	Sodium	**244**		mg/kg dry	6.17	11.7	1	EPA SW846-6010B	05/13/2013 09:29	05/13/2013 12:00	MW
7440-28-0	Thallium	ND		mg/kg dry	0.374	0.585	1	EPA SW846-6010B	05/13/2013 09:29	05/13/2013 12:00	MW
7440-62-2	Vanadium	**21.8**		mg/kg dry	0.129	0.585	1	EPA SW846-6010B	05/13/2013 09:29	05/13/2013 12:00	MW
7440-66-6	Zinc	**411**		mg/kg dry	0.105	0.585	1	EPA SW846-6010B	05/13/2013 09:29	05/13/2013 12:00	MW

Mercury by 7470/7471

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA SW846-7471

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7439-97-6	Mercury	ND		mg/kg dry	0.0386	0.0386	1	EPA SW846-7471	05/13/2013 10:27	05/14/2013 10:44	AA

Total Solids

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: % Solids Prep

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
solids	% Solids	**85.5**		%	0.100	0.100	1	SM 2540G	05/13/2013 12:16	05/13/2013 12:16	AMC

Sample Information

Client Sample ID: B3 0-22 Comp **York Sample ID:** 13E0380-02

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
13E0380	183893A	Soil	May 6, 2013 10:45 am	05/09/2013

Semi-Volatiles, 8270 Target List

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550B

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
83-32-9	Acenaphthene	ND		ug/kg dry	392	1080	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:55	SR
208-96-8	Acenaphthylene	ND		ug/kg dry	520	1080	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:55	SR
62-53-3	Aniline	ND		ug/kg dry	620	1080	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:55	SR
120-12-7	Anthracene	ND		ug/kg dry	592	1080	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:55	SR
56-55-3	Benzo(a)anthracene	ND		ug/kg dry	405	1080	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:55	SR
-8	Benzo(a)pyrene	ND		ug/kg dry	429	1080	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:55	SR
205-99-2	Benzo(b)fluoranthene	ND		ug/kg dry	908	1080	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:55	SR

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Sample Information

Client Sample ID: B3 0-22 Comp

York Sample ID: 13E0380-02

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
13E0380	183893A	Soil	May 6, 2013 10:45 am	05/09/2013

Semi-Volatiles, 8270 Target List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550B

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
191-24-2	Benzo(g,h,i)perylene	ND		ug/kg dry	360	1080	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:55	SR
100-51-6	Benzyl alcohol	ND		ug/kg dry	1080	1080	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:55	SR
207-08-9	Benzo(k)fluoranthene	ND		ug/kg dry	1080	1080	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:55	SR
85-68-7	Benzyl butyl phthalate	ND		ug/kg dry	598	1080	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:55	SR
101-55-3	4-Bromophenyl phenyl ether	ND		ug/kg dry	523	1080	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:55	SR
59-50-7	4-Chloro-3-methylphenol	ND		ug/kg dry	731	1080	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:55	SR
106-47-8	4-Chloroaniline	ND		ug/kg dry	282	1080	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:55	SR
111-91-1	Bis(2-chloroethoxy)methane	ND		ug/kg dry	373	1080	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:55	SR
111-44-4	Bis(2-chloroethyl)ether	ND		ug/kg dry	553	1080	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:55	SR
108-60-1	Bis(2-chloroisopropyl)ether	ND		ug/kg dry	382	1080	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:55	SR
117-81-7	Bis(2-ethylhexyl)phthalate	ND		ug/kg dry	748	1080	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:55	SR
91-58-7	2-Chloronaphthalene	ND		ug/kg dry	585	1080	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:55	SR
95-57-8	2-Chlorophenol	ND		ug/kg dry	358	1080	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:55	SR
7005-72-3	4-Chlorophenyl phenyl ether	ND		ug/kg dry	635	1080	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:55	SR
218-01-9	Chrysene	ND		ug/kg dry	499	1080	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:55	SR
53-70-3	Dibenzo(a,h)anthracene	ND		ug/kg dry	436	1080	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:55	SR
132-64-9	Dibenzofuran	ND		ug/kg dry	505	1080	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:55	SR
84-74-2	Di-n-butyl phthalate	ND		ug/kg dry	440	1080	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:55	SR
95-50-1	1,2-Dichlorobenzene	ND		ug/kg dry	709	1080	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:55	SR
106-46-7	1,4-Dichlorobenzene	ND		ug/kg dry	668	1080	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:55	SR
541-73-1	1,3-Dichlorobenzene	ND		ug/kg dry	343	1080	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:55	SR
91-94-1	3,3'-Dichlorobenzidine	ND		ug/kg dry	568	1080	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:55	SR
120-83-2	2,4-Dichlorophenol	ND		ug/kg dry	885	1080	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:55	SR
84-66-2	Diethyl phthalate	ND		ug/kg dry	681	1080	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:55	SR
105-67-9	2,4-Dimethylphenol	ND		ug/kg dry	759	1080	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:55	SR
131-11-3	Dimethyl phthalate	ND		ug/kg dry	483	1080	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:55	SR
534-52-1	4,6-Dinitro-2-methylphenol	ND		ug/kg dry	1370	2170	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:55	SR
88-74-4	2-Nitroaniline	ND		ug/kg dry	945	1080	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:55	SR
51-28-5	2,4-Dinitrophenol	ND		ug/kg dry	911	2170	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:55	SR
606-20-2	2,6-Dinitrotoluene	ND		ug/kg dry	557	1080	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:55	SR
121-14-2	2,4-Dinitrotoluene	ND		ug/kg dry	479	1080	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:55	SR
117-84-0	Di-n-octyl phthalate	ND		ug/kg dry	1080	1080	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:55	SR

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Sample Information

Client Sample ID: B3 0-22 Comp

York Sample ID: 13E0380-02

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
13E0380	183893A	Soil	May 6, 2013 10:45 am	05/09/2013

Semi-Volatiles, 8270 Target List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550B

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
206-44-0	Fluoranthene	ND		ug/kg dry	635	1080	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:55	SR
86-73-7	Fluorene	ND		ug/kg dry	520	1080	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:55	SR
118-74-1	Hexachlorobenzene	ND		ug/kg dry	640	1080	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:55	SR
87-68-3	Hexachlorobutadiene	ND		ug/kg dry	366	1080	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:55	SR
77-47-4	Hexachlorocyclopentadiene	ND		ug/kg dry	807	1080	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:55	SR
67-72-1	Hexachloroethane	ND		ug/kg dry	310	1080	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:55	SR
193-39-5	Indeno(1,2,3-cd)pyrene	ND		ug/kg dry	494	1080	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:55	SR
78-59-1	Isophorone	ND		ug/kg dry	373	1080	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:55	SR
91-57-6	2-Methylnaphthalene	ND		ug/kg dry	833	1080	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:55	SR
95-48-7	2-Methylphenol	ND		ug/kg dry	412	1080	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:55	SR
[illegible]794-96-9	3- & 4-Methylphenols	ND		ug/kg dry	470	1080	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:55	SR
[illegible]-3	Naphthalene	ND		ug/kg dry	267	1080	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:55	SR
99-09-2	3-Nitroaniline	ND		ug/kg dry	1080	1080	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:55	SR
100-01-6	4-Nitroaniline	ND		ug/kg dry	449	1080	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:55	SR
98-95-3	Nitrobenzene	ND		ug/kg dry	319	1080	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:55	SR
100-02-7	4-Nitrophenol	ND		ug/kg dry	408	1080	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:55	SR
88-75-5	2-Nitrophenol	ND		ug/kg dry	295	1080	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:55	SR
621-64-7	N-nitroso-di-n-propylamine	ND		ug/kg dry	362	1080	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:55	SR
62-75-9	N-Nitrosodimethylamine	ND		ug/kg dry	444	1080	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:55	SR
86-30-6	N-Nitrosodiphenylamine	ND		ug/kg dry	490	1080	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:55	SR
87-86-5	Pentachlorophenol	ND		ug/kg dry	817	1080	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:55	SR
85-01-8	Phenanthrene	ND		ug/kg dry	566	1080	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:55	SR
108-95-2	Phenol	ND		ug/kg dry	468	1080	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:55	SR
129-00-0	Pyrene	ND		ug/kg dry	442	1080	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:55	SR
110-86-1	Pyridine	ND		ug/kg dry	761	1080	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:55	SR
120-82-1	1,2,4-Trichlorobenzene	ND		ug/kg dry	392	1080	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:55	SR
95-95-4	2,4,5-Trichlorophenol	ND		ug/kg dry	841	1080	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:55	SR
88-06-2	2,4,6-Trichlorophenol	ND		ug/kg dry	551	1080	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 16:55	SR

	Surrogate Recoveries	Result	Acceptance Range
5175-83-7	*Surrogate: 2,4,6-Tribromophenol*	*58.0 %*	*15-110*
[illegible]0-8	*Surrogate: 2-Fluorobiphenyl*	*39.8 %*	*30-130*
[illegible]-4	*Surrogate: 2-Fluorophenol*	*44.5 %*	*15-110*
4165-60-0	*Surrogate: Nitrobenzene-d5*	*49.4 %*	*30-130*

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Sample Information

Client Sample ID: B3 0-22 Comp

York Sample ID: 13E0380-02

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
13E0380	183893A	Soil	May 6, 2013 10:45 am	05/09/2013

Semi-Volatiles, 8270 Target List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550B

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
4165-62-2	*Surrogate: Phenol-d5*	*46.1 %*			*15-110*						
1718-51-0	*Surrogate: Terphenyl-d14*	*50.9 %*			*30-130*						

Pesticides/PCBs, EPA TCL List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550B

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
8001-35-2	Toxaphene	ND		ug/kg dry	109	109	5	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 10:47	JW
72-43-5	Methoxychlor	ND		ug/kg dry	10.7	10.7	5	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 10:47	JW
1024-57-3	Heptachlor epoxide	ND		ug/kg dry	2.15	2.15	5	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 10:47	JW
76-44-8	Heptachlor	ND		ug/kg dry	2.15	2.15	5	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 10:47	JW
58-89-9	gamma-BHC (Lindane)	ND		ug/kg dry	2.15	2.15	5	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 10:47	JW
53494-70-5	Endrin ketone	ND		ug/kg dry	2.15	2.15	5	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 10:47	JW
7421-93-4	Endrin aldehyde	ND		ug/kg dry	2.15	2.15	5	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 10:47	JW
72-20-8	Endrin	ND		ug/kg dry	2.15	2.15	5	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 10:47	JW
1031-07-8	Endosulfan sulfate	ND		ug/kg dry	2.15	2.15	5	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 10:47	JW
33213-65-9	Endosulfan II	ND		ug/kg dry	2.15	2.15	5	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 10:47	JW
959-98-8	Endosulfan I	ND		ug/kg dry	2.15	2.15	5	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 10:47	JW
60-57-1	Dieldrin	ND		ug/kg dry	2.15	2.15	5	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 10:47	JW
319-86-8	delta-BHC	ND		ug/kg dry	2.15	2.15	5	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 10:47	JW
57-74-9	Chlordane, total	ND		ug/kg dry	8.59	8.59	5	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 10:47	JW
319-85-7	beta-BHC	ND		ug/kg dry	2.15	2.15	5	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 10:47	JW
319-84-6	alpha-BHC	ND		ug/kg dry	2.15	2.15	5	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 10:47	JW
309-00-2	Aldrin	ND		ug/kg dry	2.15	2.15	5	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 10:47	JW
50-29-3	4,4'-DDT	ND		ug/kg dry	2.15	2.15	5	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 10:47	JW
72-55-9	4,4'-DDE	ND		ug/kg dry	2.15	2.15	5	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 10:47	JW
72-54-8	4,4'-DDD	ND		ug/kg dry	2.15	2.15	5	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 10:47	JW
11096-82-5	Aroclor 1260	ND		ug/kg dry	22.1	22.1	1	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 16:25	JW
11097-69-1	Aroclor 1254	ND		ug/kg dry	22.1	22.1	1	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 16:25	JW
12672-29-6	Aroclor 1248	ND		ug/kg dry	22.1	22.1	1	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 16:25	JW
53469-21-9	Aroclor 1242	ND		ug/kg dry	22.1	22.1	1	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 16:25	JW
11141-16-5	Aroclor 1232	ND		ug/kg dry	22.1	22.1	1	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 16:25	JW
11104-28-2	Aroclor 1221	ND		ug/kg dry	22.1	22.1	1	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 16:25	JW
12674-11-2	Aroclor 1016	ND		ug/kg dry	22.1	22.1	1	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 16:25	JW

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Sample Information

Client Sample ID: B3 0-22 Comp **York Sample ID:** 13E0380-02

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
13E0380	183893A	Soil	May 6, 2013 10:45 am	05/09/2013

Pesticides/PCBs, EPA TCL List

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550B

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
1336-36-3	Total PCBs	ND		ug/kg dry	8.85	22.1	1	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 16:25	JW

Surrogate Recoveries		Result	Acceptance Range
877-09-8	*Surrogate: Tetrachloro-m-xylene*	*45.7 %*	*30-150*
2051-24-3	*Surrogate: Decachlorobiphenyl*	*57.5 %*	*30-150*

Herbicides, Target List

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550B/8151A

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
94-75-7	2,4-D	ND		ug/kg dry	26.0	26.0	1	EPA SW846-8151B	05/13/2013 08:08	05/14/2013 13:26	JW
93-72-1	2,4,5-TP (Silvex)	ND		ug/kg dry	26.0	26.0	1	EPA SW846-8151B	05/13/2013 08:08	05/14/2013 13:26	JW
93-76-5	2,4,5-T	ND		ug/kg dry	26.0	26.0	1	EPA SW846-8151B	05/13/2013 08:08	05/14/2013 13:26	JW

Surrogate Recoveries		Result	Acceptance Range
9-28-9	*Surrogate: 2,4-Dichlorophenylacetic acia*	*59.8 %*	*28.3-149*

Metals, Target Analyte

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3050B

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7429-90-5	Aluminum	**5440**		mg/kg dry	1.33	2.60	1	EPA SW846-6010B	05/13/2013 09:29	05/13/2013 12:04	MW
7440-36-0	Antimony	**32.4**		mg/kg dry	0.286	0.650	1	EPA SW846-6010B	05/13/2013 09:29	05/13/2013 12:04	MW
7440-38-2	Arsenic	**44.0**		mg/kg dry	0.442	1.30	1	EPA SW846-6010B	05/13/2013 09:29	05/13/2013 12:04	MW
7440-39-3	Barium	**1200**		mg/kg dry	0.169	0.650	1	EPA SW846-6010B	05/13/2013 09:29	05/13/2013 12:04	MW
7440-41-7	Beryllium	ND		mg/kg dry	0.130	0.130	1	EPA SW846-6010B	05/13/2013 09:29	05/13/2013 12:04	MW
7440-43-9	Cadmium	**6.55**		mg/kg dry	0.130	0.650	1	EPA SW846-6010B	05/13/2013 09:29	05/13/2013 12:04	MW
7440-70-2	Calcium	**22400**		mg/kg dry	0.052	6.50	1	EPA SW846-6010B	05/13/2013 09:29	05/13/2013 12:04	MW
7440-47-3	Chromium	**42.4**		mg/kg dry	0.156	0.650	1	EPA SW846-6010B	05/13/2013 09:29	05/13/2013 12:04	MW
7440-48-4	Cobalt	**11.0**		mg/kg dry	0.104	0.650	1	EPA SW846-6010B	05/13/2013 09:29	05/13/2013 12:04	MW
7440-50-8	Copper	**940**		mg/kg dry	1.56	6.50	10	EPA SW846-6010B	05/13/2013 09:29	05/13/2013 12:04	MW
7439-89-6	Iron	**80900**		mg/kg dry	8.46	26.0	10	EPA SW846-6010B	05/13/2013 09:29	05/13/2013 12:04	MW
7439-92-1	Lead	**3860**		mg/kg dry	0.221	0.390	1	EPA SW846-6010B	05/13/2013 09:29	05/13/2013 12:04	MW
7439-95-4	Magnesium	**1830**		mg/kg dry	0.585	6.50	1	EPA SW846-6010B	05/13/2013 09:29	05/13/2013 12:04	MW
7439-96-5	Manganese	**678**		mg/kg dry	0.143	1.30	1	EPA SW846-6010B	05/13/2013 09:29	05/13/2013 12:04	MW
7440-02-0	Nickel	**28.8**		mg/kg dry	0.169	0.650	1	EPA SW846-6010B	05/13/2013 09:29	05/13/2013 12:04	MW
7440-09-7	Potassium	**820**		mg/kg dry	4.40	13.0	1	EPA SW846-6010B	05/13/2013 09:29	05/13/2013 12:04	MW
7782-49-2	Selenium	**2.57**		mg/kg dry	0.650	0.650	1	EPA SW846-6010B	05/13/2013 09:29	05/13/2013 12:04	MW
22-4	Silver	**17.2**		mg/kg dry	0.130	0.650	1	EPA SW846-6010B	05/13/2013 09:29	05/13/2013 12:04	MW
0-23-5	Sodium	**600**		mg/kg dry	6.86	13.0	1	EPA SW846-6010B	05/13/2013 09:29	05/13/2013 12:04	MW
7440-28-0	Thallium	ND		mg/kg dry	0.416	0.650	1	EPA SW846-6010B	05/13/2013 09:29	05/13/2013 12:04	MW

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Sample Information

Client Sample ID: B3 0-22 Comp **York Sample ID:** 13E0380-02

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
13E0380	183893A	Soil	May 6, 2013 10:45 am	05/09/2013

Metals, Target Analyte

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3050B

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7440-62-2	Vanadium	**27.0**		mg/kg dry	0.143	0.650	1	EPA SW846-6010B	05/13/2013 09:29	05/13/2013 12:04	MW
7440-66-6	Zinc	**3230**		mg/kg dry	1.17	6.50	10	EPA SW846-6010B	05/13/2013 09:29	05/13/2013 12:04	MW

Mercury by 7470/7471

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA SW846-7471

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7439-97-6	Mercury	ND		mg/kg dry	0.0429	0.0429	1	EPA SW846-7471	05/13/2013 10:27	05/14/2013 10:44	AA

Total Solids

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: % Solids Prep

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
solids	% Solids	**76.9**		%	0.100	0.100	1	SM 2540G	05/13/2013 12:16	05/13/2013 12:16	AMC

Sample Information

Client Sample ID: B6 0-22 Comp **York Sample ID:** 13E0380-03

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
13E0380	183893A	Soil	May 3, 2013 1:20 pm	05/09/2013

Semi-Volatiles, 8270 Target List

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550B

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
83-32-9	Acenaphthene	ND		ug/kg dry	401	1110	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:27	SR
208-96-8	Acenaphthylene	ND		ug/kg dry	532	1110	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:27	SR
62-53-3	Aniline	ND		ug/kg dry	634	1110	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:27	SR
120-12-7	Anthracene	ND		ug/kg dry	605	1110	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:27	SR
56-55-3	Benzo(a)anthracene	**1040**	J	ug/kg dry	415	1110	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:27	SR
50-32-8	Benzo(a)pyrene	**1230**		ug/kg dry	439	1110	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:27	SR
205-99-2	Benzo(b)fluoranthene	**1240**		ug/kg dry	929	1110	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:27	SR
191-24-2	Benzo(g,h,i)perylene	**379**	J	ug/kg dry	368	1110	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:27	SR
100-51-6	Benzyl alcohol	ND		ug/kg dry	1110	1110	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:27	SR
207-08-9	Benzo(k)fluoranthene	ND		ug/kg dry	1110	1110	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:27	SR
85-68-7	Benzyl butyl phthalate	ND		ug/kg dry	612	1110	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:27	SR
101-55-3	4-Bromophenyl phenyl ether	ND		ug/kg dry	534	1110	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:27	SR
59-50-7	4-Chloro-3-methylphenol	ND		ug/kg dry	747	1110	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:27	SR
106-47-8	4-Chloroaniline	ND		ug/kg dry	288	1110	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:27	SR

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Sample Information

Client Sample ID: B6 0-22 Comp **York Sample ID:** 13E0380-03

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
13E0380	183893A	Soil	May 3, 2013 1:20 pm	05/09/2013

Semi-Volatiles, 8270 Target List **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3550B

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
111-91-1	Bis(2-chloroethoxy)methane	ND		ug/kg dry	381	1110	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:27	SR
111-44-4	Bis(2-chloroethyl)ether	ND		ug/kg dry	565	1110	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:27	SR
108-60-1	Bis(2-chloroisopropyl)ether	ND		ug/kg dry	390	1110	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:27	SR
117-81-7	Bis(2-ethylhexyl)phthalate	ND		ug/kg dry	765	1110	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:27	SR
91-58-7	2-Chloronaphthalene	ND		ug/kg dry	599	1110	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:27	SR
95-57-8	2-Chlorophenol	ND		ug/kg dry	366	1110	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:27	SR
7005-72-3	4-Chlorophenyl phenyl ether	ND		ug/kg dry	649	1110	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:27	SR
218-01-9	Chrysene	**1190**		ug/kg dry	510	1110	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:27	SR
53-70-3	Dibenzo(a,h)anthracene	ND		ug/kg dry	446	1110	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:27	SR
132-64-9	Dibenzofuran	ND		ug/kg dry	516	1110	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:27	SR
84-74-2	Di-n-butyl phthalate	ND		ug/kg dry	450	1110	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:27	SR
95-1	1,2-Dichlorobenzene	ND		ug/kg dry	725	1110	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:27	SR
106-46-7	1,4-Dichlorobenzene	ND		ug/kg dry	683	1110	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:27	SR
541-73-1	1,3-Dichlorobenzene	ND		ug/kg dry	350	1110	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:27	SR
91-94-1	3,3'-Dichlorobenzidine	ND		ug/kg dry	581	1110	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:27	SR
120-83-2	2,4-Dichlorophenol	ND		ug/kg dry	904	1110	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:27	SR
84-66-2	Diethyl phthalate	ND		ug/kg dry	696	1110	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:27	SR
105-67-9	2,4-Dimethylphenol	ND		ug/kg dry	776	1110	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:27	SR
131-11-3	Dimethyl phthalate	ND		ug/kg dry	494	1110	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:27	SR
534-52-1	4,6-Dinitro-2-methylphenol	ND		ug/kg dry	1400	2220	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:27	SR
88-74-4	2-Nitroaniline	ND		ug/kg dry	966	1110	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:27	SR
51-28-5	2,4-Dinitrophenol	ND		ug/kg dry	931	2220	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:27	SR
606-20-2	2,6-Dinitrotoluene	ND		ug/kg dry	570	1110	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:27	SR
121-14-2	2,4-Dinitrotoluene	ND		ug/kg dry	490	1110	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:27	SR
117-84-0	Di-n-octyl phthalate	ND		ug/kg dry	1110	1110	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:27	SR
206-44-0	Fluoranthene	**1300**		ug/kg dry	649	1110	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:27	SR
86-73-7	Fluorene	ND		ug/kg dry	532	1110	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:27	SR
118-74-1	Hexachlorobenzene	ND		ug/kg dry	654	1110	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:27	SR
87-68-3	Hexachlorobutadiene	ND		ug/kg dry	375	1110	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:27	SR
77-47-4	Hexachlorocyclopentadiene	ND		ug/kg dry	825	1110	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:27	SR
-1	Hexachloroethane	ND		ug/kg dry	317	1110	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:27	SR
193-39-5	Indeno(1,2,3-cd)pyrene	ND		ug/kg dry	505	1110	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:27	SR

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Sample Information

Client Sample ID: B6 0-22 Comp

York Sample ID: 13E0380-03

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
13E0380	183893A	Soil	May 3, 2013 1:20 pm	05/09/2013

Semi-Volatiles, 8270 Target List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3550B

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
78-59-1	Isophorone	ND		ug/kg dry	381	1110	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:27	SR
91-57-6	2-Methylnaphthalene	ND		ug/kg dry	851	1110	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:27	SR
95-48-7	2-Methylphenol	ND		ug/kg dry	421	1110	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:27	SR
65794-96-9	3- & 4-Methylphenols	ND		ug/kg dry	481	1110	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:27	SR
91-20-3	Naphthalene	ND		ug/kg dry	273	1110	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:27	SR
99-09-2	3-Nitroaniline	ND		ug/kg dry	1100	1110	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:27	SR
100-01-6	4-Nitroaniline	ND		ug/kg dry	459	1110	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:27	SR
98-95-3	Nitrobenzene	ND		ug/kg dry	326	1110	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:27	SR
100-02-7	4-Nitrophenol	ND		ug/kg dry	417	1110	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:27	SR
88-75-5	2-Nitrophenol	ND		ug/kg dry	301	1110	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:27	SR
621-64-7	N-nitroso-di-n-propylamine	ND		ug/kg dry	370	1110	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:27	SR
62-75-9	N-Nitrosodimethylamine	ND		ug/kg dry	454	1110	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:27	SR
86-30-6	N-Nitrosodiphenylamine	ND		ug/kg dry	501	1110	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:27	SR
87-86-5	Pentachlorophenol	ND		ug/kg dry	836	1110	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:27	SR
85-01-8	Phenanthrene	ND		ug/kg dry	579	1110	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:27	SR
108-95-2	Phenol	ND		ug/kg dry	479	1110	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:27	SR
129-00-0	Pyrene	**1290**		ug/kg dry	452	1110	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:27	SR
110-86-1	Pyridine	ND		ug/kg dry	778	1110	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:27	SR
120-82-1	1,2,4-Trichlorobenzene	ND		ug/kg dry	401	1110	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:27	SR
95-95-4	2,4,5-Trichlorophenol	ND		ug/kg dry	860	1110	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:27	SR
88-06-2	2,4,6-Trichlorophenol	ND		ug/kg dry	563	1110	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:27	SR

	Surrogate Recoveries	Result	Acceptance Range
5175-83-7	*Surrogate: 2,4,6-Tribromophenol*	*51.5 %*	*15-110*
321-60-8	*Surrogate: 2-Fluorobiphenyl*	*34.9 %*	*30-130*
367-12-4	*Surrogate: 2-Fluorophenol*	*35.6 %*	*15-110*
4165-60-0	*Surrogate: Nitrobenzene-d5*	*38.5 %*	*30-130*
4165-62-2	*Surrogate: Phenol-d5*	*28.8 %*	*15-110*
1718-51-0	*Surrogate: Terphenyl-d14*	*43.8 %*	*30-130*

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Sample Information

Client Sample ID: B6 0-22 Comp **York Sample ID:** 13E0380-03

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
13E0380	183893A	Soil	May 3, 2013 1:20 pm	05/09/2013

Pesticides/PCBs, EPA TCL List **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3550B

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
8001-35-2	Toxaphene	ND		ug/kg dry	111	111	5	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 11:02	JW
72-43-5	Methoxychlor	ND		ug/kg dry	11.0	11.0	5	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 11:02	JW
1024-57-3	Heptachlor epoxide	ND		ug/kg dry	2.19	2.19	5	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 11:02	JW
76-44-8	Heptachlor	ND		ug/kg dry	2.19	2.19	5	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 11:02	JW
58-89-9	gamma-BHC (Lindane)	ND		ug/kg dry	2.19	2.19	5	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 11:02	JW
53494-70-5	Endrin ketone	ND		ug/kg dry	2.19	2.19	5	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 11:02	JW
7421-93-4	Endrin aldehyde	ND		ug/kg dry	2.19	2.19	5	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 11:02	JW
72-20-8	Endrin	ND		ug/kg dry	2.19	2.19	5	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 11:02	JW
1031-07-8	Endosulfan sulfate	ND		ug/kg dry	2.19	2.19	5	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 11:02	JW
33213-65-9	Endosulfan II	ND		ug/kg dry	2.19	2.19	5	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 11:02	JW
959-98-8	Endosulfan I	ND		ug/kg dry	2.19	2.19	5	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 11:02	JW
7-1	Dieldrin	ND		ug/kg dry	2.19	2.19	5	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 11:02	JW
319-86-8	delta-BHC	ND		ug/kg dry	2.19	2.19	5	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 11:02	JW
57-74-9	Chlordane, total	ND		ug/kg dry	8.78	8.78	5	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 11:02	JW
319-85-7	beta-BHC	ND		ug/kg dry	2.19	2.19	5	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 11:02	JW
319-84-6	alpha-BHC	ND		ug/kg dry	2.19	2.19	5	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 11:02	JW
309-00-2	Aldrin	ND		ug/kg dry	2.19	2.19	5	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 11:02	JW
50-29-3	4,4'-DDT	**6.71**		ug/kg dry	2.19	2.19	5	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 11:02	JW
72-55-9	4,4'-DDE	**8.37**		ug/kg dry	2.19	2.19	5	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 11:02	JW
72-54-8	4,4'-DDD	ND		ug/kg dry	2.19	2.19	5	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 11:02	JW
11096-82-5	Aroclor 1260	ND		ug/kg dry	22.6	22.6	1	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 16:55	JW
11097-69-1	Aroclor 1254	ND		ug/kg dry	22.6	22.6	1	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 16:55	JW
12672-29-6	Aroclor 1248	ND		ug/kg dry	22.6	22.6	1	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 16:55	JW
53469-21-9	Aroclor 1242	ND		ug/kg dry	22.6	22.6	1	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 16:55	JW
11141-16-5	Aroclor 1232	ND		ug/kg dry	22.6	22.6	1	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 16:55	JW
11104-28-2	Aroclor 1221	ND		ug/kg dry	22.6	22.6	1	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 16:55	JW
12674-11-2	Aroclor 1016	ND		ug/kg dry	22.6	22.6	1	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 16:55	JW
1336-36-3	Total PCBs	ND		ug/kg dry	9.04	22.6	1	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 16:55	JW

	Surrogate Recoveries	Result	Acceptance Range
877-09-8	*Surrogate: Tetrachloro-m-xylene*	*66.0 %*	*30-150*
2051-24-3	*Surrogate: Decachlorobiphenyl*	*53.8 %*	*30-150*

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Sample Information

Client Sample ID: B6 0-22 Comp **York Sample ID:** 13E0380-03

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
13E0380	183893A	Soil	May 3, 2013 1:20 pm	05/09/2013

Herbicides, Target List

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550B/8151A

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
94-75-7	2,4-D	ND		ug/kg dry	26.6	26.6	1	EPA SW846-8151B	05/13/2013 08:08	05/14/2013 13:39	JW
93-72-1	2,4,5-TP (Silvex)	ND		ug/kg dry	26.6	26.6	1	EPA SW846-8151B	05/13/2013 08:08	05/14/2013 13:39	JW
93-76-5	2,4,5-T	ND		ug/kg dry	26.6	26.6	1	EPA SW846-8151B	05/13/2013 08:08	05/14/2013 13:39	JW

	Surrogate Recoveries	Result	Acceptance Range
19719-28-9	*Surrogate: 2,4-Dichlorophenylacetic acia*	*70.0 %*	*28.3-149*

Metals, Target Analyte

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3050B

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7429-90-5	Aluminum	**7330**		mg/kg dry	1.36	2.66	1	EPA SW846-6010B	05/13/2013 09:29	05/13/2013 12:12	MW
7440-36-0	Antimony	**12.1**		mg/kg dry	0.293	0.665	1	EPA SW846-6010B	05/13/2013 09:29	05/13/2013 12:12	MW
7440-38-2	Arsenic	**27.0**		mg/kg dry	0.452	1.33	1	EPA SW846-6010B	05/13/2013 09:29	05/13/2013 12:12	MW
7440-39-3	Barium	**732**		mg/kg dry	0.173	0.665	1	EPA SW846-6010B	05/13/2013 09:29	05/13/2013 12:12	MW
7440-41-7	Beryllium	ND		mg/kg dry	0.133	0.133	1	EPA SW846-6010B	05/13/2013 09:29	05/13/2013 12:12	MW
7440-43-9	Cadmium	**1.80**		mg/kg dry	0.133	0.665	1	EPA SW846-6010B	05/13/2013 09:29	05/13/2013 12:12	MW
7440-70-2	Calcium	**6190**		mg/kg dry	0.053	6.65	1	EPA SW846-6010B	05/13/2013 09:29	05/13/2013 12:12	MW
7440-47-3	Chromium	**35.2**		mg/kg dry	0.160	0.665	1	EPA SW846-6010B	05/13/2013 09:29	05/13/2013 12:12	MW
7440-48-4	Cobalt	**9.07**		mg/kg dry	0.106	0.665	1	EPA SW846-6010B	05/13/2013 09:29	05/13/2013 12:12	MW
7440-50-8	Copper	**504**		mg/kg dry	0.160	0.665	1	EPA SW846-6010B	05/13/2013 09:29	05/13/2013 12:12	MW
7439-89-6	Iron	**36900**		mg/kg dry	0.865	2.66	1	EPA SW846-6010B	05/13/2013 09:29	05/13/2013 12:12	MW
7439-92-1	Lead	**1260**		mg/kg dry	0.226	0.399	1	EPA SW846-6010B	05/13/2013 09:29	05/13/2013 12:12	MW
7439-95-4	Magnesium	**3310**		mg/kg dry	0.599	6.65	1	EPA SW846-6010B	05/13/2013 09:29	05/13/2013 12:12	MW
7439-96-5	Manganese	**358**		mg/kg dry	0.146	1.33	1	EPA SW846-6010B	05/13/2013 09:29	05/13/2013 12:12	MW
7440-02-0	Nickel	**47.8**		mg/kg dry	0.173	0.665	1	EPA SW846-6010B	05/13/2013 09:29	05/13/2013 12:12	MW
7440-09-7	Potassium	**967**		mg/kg dry	4.50	13.3	1	EPA SW846-6010B	05/13/2013 09:29	05/13/2013 12:12	MW
7782-49-2	Selenium	**3.85**		mg/kg dry	0.665	0.665	1	EPA SW846-6010B	05/13/2013 09:29	05/13/2013 12:12	MW
7440-22-4	Silver	ND		mg/kg dry	0.133	0.665	1	EPA SW846-6010B	05/13/2013 09:29	05/13/2013 12:12	MW
7440-23-5	Sodium	**293**		mg/kg dry	7.01	13.3	1	EPA SW846-6010B	05/13/2013 09:29	05/13/2013 12:12	MW
7440-28-0	Thallium	ND		mg/kg dry	0.426	0.665	1	EPA SW846-6010B	05/13/2013 09:29	05/13/2013 12:12	MW
7440-62-2	Vanadium	**29.4**		mg/kg dry	0.146	0.665	1	EPA SW846-6010B	05/13/2013 09:29	05/13/2013 12:12	MW
7440-66-6	Zinc	**1280**		mg/kg dry	0.120	0.665	1	EPA SW846-6010B	05/13/2013 09:29	05/13/2013 12:12	MW

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Sample Information

Client Sample ID: B6 0-22 Comp **York Sample ID:** 13E0380-03

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
13E0380	183893A	Soil	May 3, 2013 1:20 pm	05/09/2013

Mercury by 7470/7471

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA SW846-7471

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7439-97-6	Mercury	**0.173**		mg/kg dry	0.0439	0.0439	1	EPA SW846-7471	05/13/2013 10:27	05/14/2013 10:44	AA

Total Solids

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: % Solids Prep

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
solids	% Solids	**75.2**		%	0.100	0.100	1	SM 2540G	05/13/2013 12:16	05/13/2013 12:16	AMC

Sample Information

Client Sample ID: B8 0-22 Comp **York Sample ID:** 13E0380-04

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
13E0380	183893A	Soil	May 2, 2013 1:45 pm	05/09/2013

ni-Volatiles, 8270 Target List

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550B

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
83-32-9	Acenaphthene	ND		ug/kg dry	385	1060	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:59	SR
208-96-8	Acenaphthylene	ND		ug/kg dry	511	1060	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:59	SR
62-53-3	Aniline	ND		ug/kg dry	609	1060	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:59	SR
120-12-7	Anthracene	ND		ug/kg dry	581	1060	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:59	SR
56-55-3	Benzo(a)anthracene	**611**	J	ug/kg dry	398	1060	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:59	SR
50-32-8	Benzo(a)pyrene	**634**	J	ug/kg dry	421	1060	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:59	SR
205-99-2	Benzo(b)fluoranthene	ND		ug/kg dry	892	1060	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:59	SR
191-24-2	Benzo(g,h,i)perylene	ND		ug/kg dry	353	1060	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:59	SR
100-51-6	Benzyl alcohol	ND		ug/kg dry	1060	1060	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:59	SR
207-08-9	Benzo(k)fluoranthene	ND		ug/kg dry	1060	1060	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:59	SR
85-68-7	Benzyl butyl phthalate	ND		ug/kg dry	587	1060	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:59	SR
101-55-3	4-Bromophenyl phenyl ether	ND		ug/kg dry	513	1060	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:59	SR
59-50-7	4-Chloro-3-methylphenol	ND		ug/kg dry	717	1060	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:59	SR
106-47-8	4-Chloroaniline	ND		ug/kg dry	277	1060	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:59	SR
111-91-1	Bis(2-chloroethoxy)methane	ND		ug/kg dry	366	1060	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:59	SR
111-44-4	Bis(2-chloroethyl)ether	ND		ug/kg dry	543	1060	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:59	SR
[illegible]-60-1	Bis(2-chloroisopropyl)ether	ND		ug/kg dry	375	1060	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:59	SR
[illegible]1-7	Bis(2-ethylhexyl)phthalate	ND		ug/kg dry	734	1060	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:59	SR
91-58-7	2-Chloronaphthalene	ND		ug/kg dry	575	1060	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:59	SR

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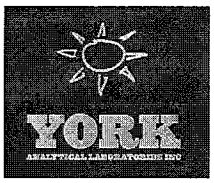

Sample Information

Client Sample ID: B8 0-22 Comp **York Sample ID:** 13E0380-04

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
13E0380	183893A	Soil	May 2, 2013 1:45 pm	05/09/2013

Semi-Volatiles, 8270 Target List **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3550B

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
95-57-8	2-Chlorophenol	ND		ug/kg dry	351	1060	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:59	SR
7005-72-3	4-Chlorophenyl phenyl ether	ND		ug/kg dry	624	1060	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:59	SR
218-01-9	Chrysene	**645**	J	ug/kg dry	489	1060	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:59	SR
53-70-3	Dibenzo(a,h)anthracene	ND		ug/kg dry	428	1060	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:59	SR
132-64-9	Dibenzofuran	ND		ug/kg dry	496	1060	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:59	SR
84-74-2	Di-n-butyl phthalate	ND		ug/kg dry	432	1060	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:59	SR
95-50-1	1,2-Dichlorobenzene	ND		ug/kg dry	696	1060	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:59	SR
106-46-7	1,4-Dichlorobenzene	ND		ug/kg dry	655	1060	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:59	SR
541-73-1	1,3-Dichlorobenzene	ND		ug/kg dry	336	1060	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:59	SR
91-94-1	3,3'-Dichlorobenzidine	ND		ug/kg dry	558	1060	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:59	SR
120-83-2	2,4-Dichlorophenol	ND		ug/kg dry	868	1060	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:59	SR
84-66-2	Diethyl phthalate	ND		ug/kg dry	668	1060	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:59	SR
105-67-9	2,4-Dimethylphenol	ND		ug/kg dry	745	1060	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:59	SR
131-11-3	Dimethyl phthalate	ND		ug/kg dry	475	1060	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:59	SR
534-52-1	4,6-Dinitro-2-methylphenol	ND		ug/kg dry	1340	2130	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:59	SR
88-74-4	2-Nitroaniline	ND		ug/kg dry	928	1060	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:59	SR
51-28-5	2,4-Dinitrophenol	ND		ug/kg dry	894	2130	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:59	SR
606-20-2	2,6-Dinitrotoluene	ND		ug/kg dry	547	1060	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:59	SR
121-14-2	2,4-Dinitrotoluene	ND		ug/kg dry	470	1060	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:59	SR
117-84-0	Di-n-octyl phthalate	ND		ug/kg dry	1060	1060	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:59	SR
206-44-0	Fluoranthene	**1020**	J	ug/kg dry	624	1060	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:59	SR
86-73-7	Fluorene	ND		ug/kg dry	511	1060	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:59	SR
118-74-1	Hexachlorobenzene	ND		ug/kg dry	628	1060	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:59	SR
87-68-3	Hexachlorobutadiene	ND		ug/kg dry	360	1060	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:59	SR
77-47-4	Hexachlorocyclopentadiene	ND		ug/kg dry	792	1060	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:59	SR
67-72-1	Hexachloroethane	ND		ug/kg dry	304	1060	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:59	SR
193-39-5	Indeno(1,2,3-cd)pyrene	ND		ug/kg dry	485	1060	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:59	SR
78-59-1	Isophorone	ND		ug/kg dry	366	1060	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:59	SR
91-57-6	2-Methylnaphthalene	ND		ug/kg dry	817	1060	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:59	SR
95-48-7	2-Methylphenol	ND		ug/kg dry	404	1060	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:59	SR
65794-96-9	3- & 4-Methylphenols	ND		ug/kg dry	462	1060	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:59	SR
91-20-3	Naphthalene	ND		ug/kg dry	262	1060	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:59	SR

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Sample Information

Client Sample ID: B8 0-22 Comp **York Sample ID:** 13E0380-04

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
13E0380	183893A	Soil	May 2, 2013 1:45 pm	05/09/2013

Semi-Volatiles, 8270 Target List

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550B

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
99-09-2	3-Nitroaniline	ND		ug/kg dry	1060	1060	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:59	SR
100-01-6	4-Nitroaniline	ND		ug/kg dry	441	1060	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:59	SR
98-95-3	Nitrobenzene	ND		ug/kg dry	313	1060	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:59	SR
100-02-7	4-Nitrophenol	ND		ug/kg dry	400	1060	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:59	SR
88-75-5	2-Nitrophenol	ND		ug/kg dry	289	1060	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:59	SR
621-64-7	N-nitroso-di-n-propylamine	ND		ug/kg dry	355	1060	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:59	SR
62-75-9	N-Nitrosodimethylamine	ND		ug/kg dry	436	1060	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:59	SR
86-30-6	N-Nitrosodiphenylamine	ND		ug/kg dry	481	1060	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:59	SR
87-86-5	Pentachlorophenol	ND		ug/kg dry	802	1060	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:59	SR
85-01-8	Phenanthrene	**609**	J	ug/kg dry	555	1060	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:59	SR
108-95-2	Phenol	ND		ug/kg dry	460	1060	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:59	SR
00-0	Pyrene	**1010**	J	ug/kg dry	434	1060	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:59	SR
110-86-1	Pyridine	ND		ug/kg dry	747	1060	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:59	SR
120-82-1	1,2,4-Trichlorobenzene	ND		ug/kg dry	385	1060	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:59	SR
95-95-4	2,4,5-Trichlorophenol	ND		ug/kg dry	826	1060	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:59	SR
88-06-2	2,4,6-Trichlorophenol	ND		ug/kg dry	541	1060	5	EPA SW-846 8270C	05/10/2013 07:23	05/13/2013 17:59	SR

	Surrogate Recoveries	Result	Acceptance Range
5175-83-7	*Surrogate: 2,4,6-Tribromophenol*	*60.9 %*	*15-110*
321-60-8	*Surrogate: 2-Fluorobiphenyl*	*53.3 %*	*30-130*
367-12-4	*Surrogate: 2-Fluorophenol*	*50.3 %*	*15-110*
4165-60-0	*Surrogate: Nitrobenzene-d5*	*64.5 %*	*30-130*
4165-62-2	*Surrogate: Phenol-d5*	*44.4 %*	*15-110*
1718-51-0	*Surrogate: Terphenyl-d14*	*66.7 %*	*30-130*

Pesticides/PCBs, EPA TCL List

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550B

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
8001-35-2	Toxaphene	ND		ug/kg dry	107	107	5	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 11:17	JW
72-43-5	Methoxychlor	ND		ug/kg dry	10.5	10.5	5	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 11:17	JW
1024-57-3	Heptachlor epoxide	ND		ug/kg dry	2.11	2.11	5	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 11:17	JW
76-44-8	Heptachlor	ND		ug/kg dry	2.11	2.11	5	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 11:17	JW
58-89-9	gamma-BHC (Lindane)	ND		ug/kg dry	2.11	2.11	5	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 11:17	JW
494-70-5	Endrin ketone	ND		ug/kg dry	2.11	2.11	5	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 11:17	JW
7-93-4	Endrin aldehyde	ND		ug/kg dry	2.11	2.11	5	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 11:17	JW
72-20-8	Endrin	ND		ug/kg dry	2.11	2.11	5	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 11:17	JW

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Sample Information

Client Sample ID: B8 0-22 Comp **York Sample ID:** 13E0380-04

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
13E0380	183893A	Soil	May 2, 2013 1:45 pm	05/09/2013

Pesticides/PCBs, EPA TCL List

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550B

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
1031-07-8	Endosulfan sulfate	ND		ug/kg dry	2.11	2.11	5	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 11:17	JW
33213-65-9	Endosulfan II	ND		ug/kg dry	2.11	2.11	5	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 11:17	JW
959-98-8	Endosulfan I	ND		ug/kg dry	2.11	2.11	5	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 11:17	JW
60-57-1	Dieldrin	ND		ug/kg dry	2.11	2.11	5	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 11:17	JW
319-86-8	delta-BHC	ND		ug/kg dry	2.11	2.11	5	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 11:17	JW
57-74-9	Chlordane, total	ND		ug/kg dry	8.43	8.43	5	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 11:17	JW
319-85-7	beta-BHC	ND		ug/kg dry	2.11	2.11	5	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 11:17	JW
319-84-6	alpha-BHC	ND		ug/kg dry	2.11	2.11	5	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 11:17	JW
309-00-2	Aldrin	ND		ug/kg dry	2.11	2.11	5	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 11:17	JW
50-29-3	4,4'-DDT	**16.8**		ug/kg dry	2.11	2.11	5	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 11:17	JW
72-55-9	4,4'-DDE	**10.2**		ug/kg dry	2.11	2.11	5	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 11:17	JW
72-54-8	4,4'-DDD	ND		ug/kg dry	2.11	2.11	5	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 11:17	JW
11096-82-5	Aroclor 1260	ND		ug/kg dry	21.7	21.7	1	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 17:24	JW
11097-69-1	Aroclor 1254	ND		ug/kg dry	21.7	21.7	1	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 17:24	JW
12672-29-6	Aroclor 1248	ND		ug/kg dry	21.7	21.7	1	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 17:24	JW
53469-21-9	Aroclor 1242	ND		ug/kg dry	21.7	21.7	1	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 17:24	JW
11141-16-5	Aroclor 1232	ND		ug/kg dry	21.7	21.7	1	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 17:24	JW
11104-28-2	Aroclor 1221	ND		ug/kg dry	21.7	21.7	1	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 17:24	JW
12674-11-2	Aroclor 1016	ND		ug/kg dry	21.7	21.7	1	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 17:24	JW
1336-36-3	Total PCBs	ND		ug/kg dry	8.68	21.7	1	EPA SW 846-8081/8082	05/10/2013 14:06	05/14/2013 17:24	JW

	Surrogate Recoveries	Result	Acceptance Range
877-09-8	*Surrogate: Tetrachloro-m-xylene*	*78.9 %*	*30-150*
2051-24-3	*Surrogate: Decachlorobiphenyl*	*78.5 %*	*30-150*

Herbicides, Target List

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550B/8151A

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
94-75-7	2,4-D	ND		ug/kg dry	25.5	25.5	1	EPA SW846-8151B	05/13/2013 08:08	05/14/2013 13:51	JW
93-72-1	2,4,5-TP (Silvex)	ND		ug/kg dry	25.5	25.5	1	EPA SW846-8151B	05/13/2013 08:08	05/14/2013 13:51	JW
93-76-5	2,4,5-T	ND		ug/kg dry	25.5	25.5	1	EPA SW846-8151B	05/13/2013 08:08	05/14/2013 13:51	JW

	Surrogate Recoveries	Result	Acceptance Range
19719-28-9	*Surrogate: 2,4-Dichlorophenylacetic acia*	*62.0 %*	*28.3-149*

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Sample Information

Client Sample ID: B8 0-22 Comp **York Sample ID:** 13E0380-04

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
13E0380	183893A	Soil	May 2, 2013 1:45 pm	05/09/2013

Metals, Target Analyte

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3050B

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7429-90-5	Aluminum	**5610**		mg/kg dry	1.30	2.55	1	EPA SW846-6010B	05/13/2013 09:29	05/13/2013 12:29	MW
7440-36-0	Antimony	**6.10**		mg/kg dry	0.281	0.638	1	EPA SW846-6010B	05/13/2013 09:29	05/13/2013 12:29	MW
7440-38-2	Arsenic	**17.0**		mg/kg dry	0.434	1.28	1	EPA SW846-6010B	05/13/2013 09:29	05/13/2013 12:29	MW
7440-39-3	Barium	**719**		mg/kg dry	0.166	0.638	1	EPA SW846-6010B	05/13/2013 09:29	05/13/2013 12:29	MW
7440-41-7	Beryllium	ND		mg/kg dry	0.128	0.128	1	EPA SW846-6010B	05/13/2013 09:29	05/13/2013 12:29	MW
7440-43-9	Cadmium	**2.15**		mg/kg dry	0.128	0.638	1	EPA SW846-6010B	05/13/2013 09:29	05/13/2013 12:29	MW
7440-70-2	Calcium	**24800**		mg/kg dry	0.051	6.38	1	EPA SW846-6010B	05/13/2013 09:29	05/13/2013 12:29	MW
7440-47-3	Chromium	**26.6**		mg/kg dry	0.153	0.638	1	EPA SW846-6010B	05/13/2013 09:29	05/13/2013 12:29	MW
7440-48-4	Cobalt	**8.95**		mg/kg dry	0.102	0.638	1	EPA SW846-6010B	05/13/2013 09:29	05/13/2013 12:29	MW
7440-50-8	Copper	**1990**		mg/kg dry	1.53	6.38	10	EPA SW846-6010B	05/13/2013 09:29	05/13/2013 12:29	MW
7439-89-6	Iron	**57400**		mg/kg dry	8.30	25.5	10	EPA SW846-6010B	05/13/2013 09:29	05/13/2013 12:29	MW
7439-92-1	Lead	**1350**		mg/kg dry	0.217	0.383	1	EPA SW846-6010B	05/13/2013 09:29	05/13/2013 12:29	MW
-95-4	Magnesium	**2550**		mg/kg dry	0.575	6.38	1	EPA SW846-6010B	05/13/2013 09:29	05/13/2013 12:29	MW
7439-96-5	Manganese	**334**		mg/kg dry	0.140	1.28	1	EPA SW846-6010B	05/13/2013 09:29	05/13/2013 12:29	MW
7440-02-0	Nickel	**26.7**		mg/kg dry	0.166	0.638	1	EPA SW846-6010B	05/13/2013 09:29	05/13/2013 12:29	MW
7440-09-7	Potassium	**626**		mg/kg dry	4.32	12.8	1	EPA SW846-6010B	05/13/2013 09:29	05/13/2013 12:29	MW
7782-49-2	Selenium	**3.07**		mg/kg dry	0.638	0.638	1	EPA SW846-6010B	05/13/2013 09:29	05/13/2013 12:29	MW
7440-22-4	Silver	ND		mg/kg dry	0.128	0.638	1	EPA SW846-6010B	05/13/2013 09:29	05/13/2013 12:29	MW
7440-23-5	Sodium	**511**		mg/kg dry	6.73	12.8	1	EPA SW846-6010B	05/13/2013 09:29	05/13/2013 12:29	MW
7440-28-0	Thallium	ND		mg/kg dry	0.409	0.638	1	EPA SW846-6010B	05/13/2013 09:29	05/13/2013 12:29	MW
7440-62-2	Vanadium	**22.6**		mg/kg dry	0.140	0.638	1	EPA SW846-6010B	05/13/2013 09:29	05/13/2013 12:29	MW
7440-66-6	Zinc	**1770**		mg/kg dry	1.15	6.38	10	EPA SW846-6010B	05/13/2013 09:29	05/13/2013 12:29	MW

Mercury by 7470/7471

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA SW846-7471

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7439-97-6	Mercury	ND		mg/kg dry	0.0421	0.0421	1	EPA SW846-7471	05/13/2013 10:27	05/14/2013 10:44	AA

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Sample Information

Client Sample ID: B8 0-22 Comp **York Sample ID:** 13E0380-04

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
13E0380	183893A	Soil	May 2, 2013 1:45 pm	05/09/2013

Total Solids **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: % Solids Prep

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
solids	% Solids	**78.3**		%	0.100	0.100	1	SM 2540G	05/13/2013 12:16	05/13/2013 12:16	AMC

Sample Information

Client Sample ID: B8 Grab 10-12 **York Sample ID:** 13E0380-05

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
13E0380	183893A	Soil	May 2, 2013 12:00 pm	05/09/2013

Volatile Organics, 8260 List **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
630-20-6	1,1,1,2-Tetrachloroethane	ND		ug/kg dry	1.6	3.3	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 07:32	BK
71-55-6	1,1,1-Trichloroethane	ND		ug/kg dry	1.6	3.3	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 07:32	BK
79-34-5	1,1,2,2-Tetrachloroethane	ND		ug/kg dry	1.6	3.3	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 07:32	BK
76-13-1	,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113	ND		ug/kg dry	1.6	3.3	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 07:32	BK
79-00-5	1,1,2-Trichloroethane	ND		ug/kg dry	1.6	3.3	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 07:32	BK
75-34-3	1,1-Dichloroethane	ND		ug/kg dry	1.6	3.3	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 07:32	BK
75-35-4	1,1-Dichloroethylene	ND		ug/kg dry	1.6	3.3	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 07:32	BK
563-58-6	1,1-Dichloropropylene	ND		ug/kg dry	1.6	3.3	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 07:32	BK
87-61-6	1,2,3-Trichlorobenzene	ND		ug/kg dry	1.6	3.3	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 07:32	BK
96-18-4	1,2,3-Trichloropropane	ND		ug/kg dry	1.6	3.3	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 07:32	BK
120-82-1	1,2,4-Trichlorobenzene	ND		ug/kg dry	1.6	3.3	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 07:32	BK
95-63-6	1,2,4-Trimethylbenzene	ND		ug/kg dry	1.6	3.3	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 07:32	BK
96-12-8	1,2-Dibromo-3-chloropropane	ND		ug/kg dry	1.6	3.3	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 07:32	BK
106-93-4	1,2-Dibromoethane	ND		ug/kg dry	1.6	3.3	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 07:32	BK
95-50-1	1,2-Dichlorobenzene	ND		ug/kg dry	1.6	3.3	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 07:32	BK
107-06-2	1,2-Dichloroethane	ND		ug/kg dry	1.6	3.3	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 07:32	BK
78-87-5	1,2-Dichloropropane	ND		ug/kg dry	1.6	3.3	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 07:32	BK
108-67-8	1,3,5-Trimethylbenzene	ND		ug/kg dry	1.6	3.3	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 07:32	BK
541-73-1	1,3-Dichlorobenzene	ND		ug/kg dry	1.6	3.3	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 07:32	BK
142-28-9	1,3-Dichloropropane	ND		ug/kg dry	1.6	3.3	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 07:32	BK
106-46-7	1,4-Dichlorobenzene	ND		ug/kg dry	1.6	3.3	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 07:32	BK
123-91-1	1,4-Dioxane	ND		ug/kg dry	33	65	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 07:32	BK
594-20-7	2,2-Dichloropropane	ND		ug/kg dry	1.6	3.3	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 07:32	BK

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Sample Information

Client Sample ID: B8 Grab 10-12 **York Sample ID:** 13E0380-05

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
13E0380	183893A	Soil	May 2, 2013 12:00 pm	05/09/2013

Volatile Organics, 8260 List **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
78-93-3	2-Butanone	ND		ug/kg dry	1.6	3.3	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 07:32	BK
95-49-8	2-Chlorotoluene	ND		ug/kg dry	1.6	3.3	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 07:32	BK
106-43-4	4-Chlorotoluene	ND		ug/kg dry	1.6	3.3	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 07:32	BK
67-64-1	Acetone	3.2	J, B	ug/kg dry	1.6	6.5	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 07:32	BK
71-43-2	Benzene	ND		ug/kg dry	1.6	3.3	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 07:32	BK
108-86-1	Bromobenzene	ND		ug/kg dry	1.6	3.3	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 07:32	BK
74-97-5	Bromochloromethane	ND		ug/kg dry	1.6	3.3	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 07:32	BK
75-27-4	Bromodichloromethane	ND		ug/kg dry	1.6	3.3	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 07:32	BK
75-25-2	Bromoform	ND		ug/kg dry	1.6	3.3	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 07:32	BK
74-83-9	Bromomethane	ND		ug/kg dry	1.6	3.3	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 07:32	BK
56-23-5	Carbon tetrachloride	ND		ug/kg dry	1.6	3.3	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 07:32	BK
90-7	Chlorobenzene	ND		ug/kg dry	1.6	3.3	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 07:32	BK
75-00-3	Chloroethane	ND		ug/kg dry	1.6	3.3	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 07:32	BK
67-66-3	Chloroform	ND		ug/kg dry	1.6	3.3	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 07:32	BK
74-87-3	Chloromethane	ND		ug/kg dry	1.6	3.3	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 07:32	BK
156-59-2	cis-1,2-Dichloroethylene	ND		ug/kg dry	1.6	3.3	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 07:32	BK
10061-01-5	cis-1,3-Dichloropropylene	ND		ug/kg dry	1.6	3.3	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 07:32	BK
124-48-1	Dibromochloromethane	ND		ug/kg dry	1.6	3.3	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 07:32	BK
74-95-3	Dibromomethane	ND		ug/kg dry	1.6	3.3	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 07:32	BK
75-71-8	Dichlorodifluoromethane	ND		ug/kg dry	1.6	3.3	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 07:32	BK
100-41-4	Ethyl Benzene	ND		ug/kg dry	1.6	3.3	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 07:32	BK
87-68-3	Hexachlorobutadiene	ND		ug/kg dry	1.6	3.3	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 07:32	BK
98-82-8	Isopropylbenzene	ND		ug/kg dry	1.6	3.3	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 07:32	BK
1634-04-4	Methyl tert-butyl ether (MTBE)	ND		ug/kg dry	1.6	3.3	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 07:32	BK
75-09-2	Methylene chloride	ND		ug/kg dry	1.6	6.5	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 07:32	BK
91-20-3	Naphthalene	ND		ug/kg dry	1.6	6.5	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 07:32	BK
104-51-8	n-Butylbenzene	ND		ug/kg dry	1.6	3.3	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 07:32	BK
103-65-1	n-Propylbenzene	ND		ug/kg dry	1.6	3.3	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 07:32	BK
95-47-6	o-Xylene	ND		ug/kg dry	1.6	3.3	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 07:32	BK
179601-23-1	p- & m- Xylenes	ND		ug/kg dry	3.3	6.5	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 07:32	BK
-6	p-Isopropyltoluene	ND		ug/kg dry	1.6	3.3	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 07:32	BK
135-98-8	sec-Butylbenzene	ND		ug/kg dry	1.6	3.3	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 07:32	BK

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Sample Information

Client Sample ID: B8 Grab 10-12 **York Sample ID:** 13E0380-05

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
13E0380	183893A	Soil	May 2, 2013 12:00 pm	05/09/2013

Volatile Organics, 8260 List **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
100-42-5	Styrene	ND		ug/kg dry	1.6	3.3	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 07:32	BK
98-06-6	tert-Butylbenzene	ND		ug/kg dry	1.6	3.3	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 07:32	BK
127-18-4	Tetrachloroethylene	ND		ug/kg dry	1.6	3.3	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 07:32	BK
108-88-3	Toluene	ND		ug/kg dry	1.6	3.3	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 07:32	BK
156-60-5	trans-1,2-Dichloroethylene	ND		ug/kg dry	1.6	3.3	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 07:32	BK
10061-02-6	trans-1,3-Dichloropropylene	ND		ug/kg dry	1.6	3.3	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 07:32	BK
79-01-6	Trichloroethylene	ND		ug/kg dry	1.6	3.3	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 07:32	BK
75-69-4	Trichlorofluoromethane	ND		ug/kg dry	1.6	3.3	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 07:32	BK
75-01-4	Vinyl Chloride	ND		ug/kg dry	1.6	3.3	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 07:32	BK
1330-20-7	Xylenes, Total	ND		ug/kg dry	4.9	9.8	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 07:32	BK
108-05-4	Vinyl acetate	ND		ug/kg dry	1.6	3.3	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 07:32	BK

	Surrogate Recoveries	Result	Acceptance Range
17060-07-0	*Surrogate: 1,2-Dichloroethane-d4*	*87.5 %*	*73-130*
460-00-4	*Surrogate: p-Bromofluorobenzene*	*118 %*	*72-127*
2037-26-5	*Surrogate: Toluene-d8*	*108 %*	*84-117*

Total Solids **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: % Solids Prep

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
solids	% Solids	**80.8**		%	0.100	0.100	1	SM 2540G	05/13/2013 12:16	05/13/2013 12:16	AMC

Sample Information

Client Sample ID: B1-X Grab 6-8 **York Sample ID:** 13E0380-06

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
13E0380	183893A	Soil	May 7, 2013 8:45 am	05/09/2013

Volatile Organics, 8260 List **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
630-20-6	1,1,1,2-Tetrachloroethane	ND		ug/kg dry	2.0	4.0	1	EPA SW846-8260B	05/13/2013 09:45	05/13/2013 11:00	BK
71-55-6	1,1,1-Trichloroethane	ND		ug/kg dry	2.0	4.0	1	EPA SW846-8260B	05/13/2013 09:45	05/13/2013 11:00	BK
79-34-5	1,1,2,2-Tetrachloroethane	ND		ug/kg dry	2.0	4.0	1	EPA SW846-8260B	05/13/2013 09:45	05/13/2013 11:00	BK
76-13-1	,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113	ND		ug/kg dry	2.0	4.0	1	EPA SW846-8260B	05/13/2013 09:45	05/13/2013 11:00	BK
79-00-5	1,1,2-Trichloroethane	ND		ug/kg dry	2.0	4.0	1	EPA SW846-8260B	05/13/2013 09:45	05/13/2013 11:00	BK

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Sample Information

Client Sample ID: B1-X Grab 6-8 **York Sample ID:** 13E0380-06

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
13E0380	183893A	Soil	May 7, 2013 8:45 am	05/09/2013

Volatile Organics, 8260 List **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
75-34-3	1,1-Dichloroethane	ND		ug/kg dry	2.0	4.0	1	EPA SW846-8260B	05/13/2013 09:45	05/13/2013 11:00	BK
75-35-4	1,1-Dichloroethylene	ND		ug/kg dry	2.0	4.0	1	EPA SW846-8260B	05/13/2013 09:45	05/13/2013 11:00	BK
563-58-6	1,1-Dichloropropylene	ND		ug/kg dry	2.0	4.0	1	EPA SW846-8260B	05/13/2013 09:45	05/13/2013 11:00	BK
87-61-6	1,2,3-Trichlorobenzene	ND		ug/kg dry	2.0	4.0	1	EPA SW846-8260B	05/13/2013 09:45	05/13/2013 11:00	BK
96-18-4	1,2,3-Trichloropropane	ND		ug/kg dry	2.0	4.0	1	EPA SW846-8260B	05/13/2013 09:45	05/13/2013 11:00	BK
120-82-1	1,2,4-Trichlorobenzene	ND		ug/kg dry	2.0	4.0	1	EPA SW846-8260B	05/13/2013 09:45	05/13/2013 11:00	BK
95-63-6	1,2,4-Trimethylbenzene	ND		ug/kg dry	2.0	4.0	1	EPA SW846-8260B	05/13/2013 09:45	05/13/2013 11:00	BK
96-12-8	1,2-Dibromo-3-chloropropane	ND		ug/kg dry	2.0	4.0	1	EPA SW846-8260B	05/13/2013 09:45	05/13/2013 11:00	BK
106-93-4	1,2-Dibromoethane	ND		ug/kg dry	2.0	4.0	1	EPA SW846-8260B	05/13/2013 09:45	05/13/2013 11:00	BK
95-50-1	1,2-Dichlorobenzene	ND		ug/kg dry	2.0	4.0	1	EPA SW846-8260B	05/13/2013 09:45	05/13/2013 11:00	BK
[illegible]7-06-2	1,2-Dichloroethane	ND		ug/kg dry	2.0	4.0	1	EPA SW846-8260B	05/13/2013 09:45	05/13/2013 11:00	BK
[illegible]7-5	1,2-Dichloropropane	ND		ug/kg dry	2.0	4.0	1	EPA SW846-8260B	05/13/2013 09:45	05/13/2013 11:00	BK
108-67-8	1,3,5-Trimethylbenzene	ND		ug/kg dry	2.0	4.0	1	EPA SW846-8260B	05/13/2013 09:45	05/13/2013 11:00	BK
541-73-1	1,3-Dichlorobenzene	ND		ug/kg dry	2.0	4.0	1	EPA SW846-8260B	05/13/2013 09:45	05/13/2013 11:00	BK
142-28-9	1,3-Dichloropropane	ND		ug/kg dry	2.0	4.0	1	EPA SW846-8260B	05/13/2013 09:45	05/13/2013 11:00	BK
106-46-7	1,4-Dichlorobenzene	ND		ug/kg dry	2.0	4.0	1	EPA SW846-8260B	05/13/2013 09:45	05/13/2013 11:00	BK
123-91-1	1,4-Dioxane	ND		ug/kg dry	40	80	1	EPA SW846-8260B	05/13/2013 09:45	05/13/2013 11:00	BK
594-20-7	2,2-Dichloropropane	ND		ug/kg dry	2.0	4.0	1	EPA SW846-8260B	05/13/2013 09:45	05/13/2013 11:00	BK
78-93-3	2-Butanone	ND		ug/kg dry	2.0	4.0	1	EPA SW846-8260B	05/13/2013 09:45	05/13/2013 11:00	BK
95-49-8	2-Chlorotoluene	ND		ug/kg dry	2.0	4.0	1	EPA SW846-8260B	05/13/2013 09:45	05/13/2013 11:00	BK
106-43-4	4-Chlorotoluene	ND		ug/kg dry	2.0	4.0	1	EPA SW846-8260B	05/13/2013 09:45	05/13/2013 11:00	BK
67-64-1	Acetone	ND		ug/kg dry	2.0	8.0	1	EPA SW846-8260B	05/13/2013 09:45	05/13/2013 11:00	BK
71-43-2	Benzene	ND		ug/kg dry	2.0	4.0	1	EPA SW846-8260B	05/13/2013 09:45	05/13/2013 11:00	BK
108-86-1	Bromobenzene	ND		ug/kg dry	2.0	4.0	1	EPA SW846-8260B	05/13/2013 09:45	05/13/2013 11:00	BK
74-97-5	Bromochloromethane	ND		ug/kg dry	2.0	4.0	1	EPA SW846-8260B	05/13/2013 09:45	05/13/2013 11:00	BK
75-27-4	Bromodichloromethane	ND		ug/kg dry	2.0	4.0	1	EPA SW846-8260B	05/13/2013 09:45	05/13/2013 11:00	BK
75-25-2	Bromoform	ND		ug/kg dry	2.0	4.0	1	EPA SW846-8260B	05/13/2013 09:45	05/13/2013 11:00	BK
74-83-9	Bromomethane	ND		ug/kg dry	2.0	4.0	1	EPA SW846-8260B	05/13/2013 09:45	05/13/2013 11:00	BK
56-23-5	Carbon tetrachloride	ND		ug/kg dry	2.0	4.0	1	EPA SW846-8260B	05/13/2013 09:45	05/13/2013 11:00	BK
108-90-7	Chlorobenzene	ND		ug/kg dry	2.0	4.0	1	EPA SW846-8260B	05/13/2013 09:45	05/13/2013 11:00	BK
[illegible]-3	Chloroethane	ND		ug/kg dry	2.0	4.0	1	EPA SW846-8260B	05/13/2013 09:45	05/13/2013 11:00	BK
67-66-3	Chloroform	ND		ug/kg dry	2.0	4.0	1	EPA SW846-8260B	05/13/2013 09:45	05/13/2013 11:00	BK

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Sample Information

Client Sample ID: B1-X Grab 6-8 **York Sample ID:** 13E0380-06

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
13E0380	183893A	Soil	May 7, 2013 8:45 am	05/09/2013

Volatile Organics, 8260 List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
74-87-3	Chloromethane	ND		ug/kg dry	2.0	4.0	1	EPA SW846-8260B	05/13/2013 09:45	05/13/2013 11:00	BK
156-59-2	cis-1,2-Dichloroethylene	ND		ug/kg dry	2.0	4.0	1	EPA SW846-8260B	05/13/2013 09:45	05/13/2013 11:00	BK
10061-01-5	cis-1,3-Dichloropropylene	ND		ug/kg dry	2.0	4.0	1	EPA SW846-8260B	05/13/2013 09:45	05/13/2013 11:00	BK
124-48-1	Dibromochloromethane	ND		ug/kg dry	2.0	4.0	1	EPA SW846-8260B	05/13/2013 09:45	05/13/2013 11:00	BK
74-95-3	Dibromomethane	ND		ug/kg dry	2.0	4.0	1	EPA SW846-8260B	05/13/2013 09:45	05/13/2013 11:00	BK
75-71-8	Dichlorodifluoromethane	ND		ug/kg dry	2.0	4.0	1	EPA SW846-8260B	05/13/2013 09:45	05/13/2013 11:00	BK
100-41-4	Ethyl Benzene	ND		ug/kg dry	2.0	4.0	1	EPA SW846-8260B	05/13/2013 09:45	05/13/2013 11:00	BK
87-68-3	Hexachlorobutadiene	ND		ug/kg dry	2.0	4.0	1	EPA SW846-8260B	05/13/2013 09:45	05/13/2013 11:00	BK
98-82-8	Isopropylbenzene	ND		ug/kg dry	2.0	4.0	1	EPA SW846-8260B	05/13/2013 09:45	05/13/2013 11:00	BK
1634-04-4	Methyl tert-butyl ether (MTBE)	ND		ug/kg dry	2.0	4.0	1	EPA SW846-8260B	05/13/2013 09:45	05/13/2013 11:00	BK
75-09-2	Methylene chloride	ND		ug/kg dry	2.0	8.0	1	EPA SW846-8260B	05/13/2013 09:45	05/13/2013 11:00	BK
91-20-3	Naphthalene	ND		ug/kg dry	2.0	8.0	1	EPA SW846-8260B	05/13/2013 09:45	05/13/2013 11:00	BK
104-51-8	n-Butylbenzene	ND		ug/kg dry	2.0	4.0	1	EPA SW846-8260B	05/13/2013 09:45	05/13/2013 11:00	BK
103-65-1	n-Propylbenzene	ND		ug/kg dry	2.0	4.0	1	EPA SW846-8260B	05/13/2013 09:45	05/13/2013 11:00	BK
95-47-6	o-Xylene	ND		ug/kg dry	2.0	4.0	1	EPA SW846-8260B	05/13/2013 09:45	05/13/2013 11:00	BK
179601-23-1	p- & m- Xylenes	ND		ug/kg dry	4.0	8.0	1	EPA SW846-8260B	05/13/2013 09:45	05/13/2013 11:00	BK
99-87-6	p-Isopropyltoluene	ND		ug/kg dry	2.0	4.0	1	EPA SW846-8260B	05/13/2013 09:45	05/13/2013 11:00	BK
135-98-8	sec-Butylbenzene	ND		ug/kg dry	2.0	4.0	1	EPA SW846-8260B	05/13/2013 09:45	05/13/2013 11:00	BK
100-42-5	Styrene	ND		ug/kg dry	2.0	4.0	1	EPA SW846-8260B	05/13/2013 09:45	05/13/2013 11:00	BK
98-06-6	tert-Butylbenzene	ND		ug/kg dry	2.0	4.0	1	EPA SW846-8260B	05/13/2013 09:45	05/13/2013 11:00	BK
127-18-4	Tetrachloroethylene	ND		ug/kg dry	2.0	4.0	1	EPA SW846-8260B	05/13/2013 09:45	05/13/2013 11:00	BK
108-88-3	Toluene	ND		ug/kg dry	2.0	4.0	1	EPA SW846-8260B	05/13/2013 09:45	05/13/2013 11:00	BK
156-60-5	trans-1,2-Dichloroethylene	ND		ug/kg dry	2.0	4.0	1	EPA SW846-8260B	05/13/2013 09:45	05/13/2013 11:00	BK
10061-02-6	trans-1,3-Dichloropropylene	ND		ug/kg dry	2.0	4.0	1	EPA SW846-8260B	05/13/2013 09:45	05/13/2013 11:00	BK
79-01-6	Trichloroethylene	ND		ug/kg dry	2.0	4.0	1	EPA SW846-8260B	05/13/2013 09:45	05/13/2013 11:00	BK
75-69-4	Trichlorofluoromethane	ND		ug/kg dry	2.0	4.0	1	EPA SW846-8260B	05/13/2013 09:45	05/13/2013 11:00	BK
75-01-4	Vinyl Chloride	ND		ug/kg dry	2.0	4.0	1	EPA SW846-8260B	05/13/2013 09:45	05/13/2013 11:00	BK
1330-20-7	Xylenes, Total	ND		ug/kg dry	6.0	12	1	EPA SW846-8260B	05/13/2013 09:45	05/13/2013 11:00	BK
108-05-4	Vinyl acetate	ND		ug/kg dry	2.0	4.0	1	EPA SW846-8260B	05/13/2013 09:45	05/13/2013 11:00	BK

	Surrogate Recoveries	Result	Acceptance Range
17060-07-0	*Surrogate: 1,2-Dichloroethane-d4*	*96.6 %*	*73-130*
460-00-4	*Surrogate: p-Bromofluorobenzene*	*100 %*	*72-127*
2037-26-5	*Surrogate: Toluene-d8*	*101 %*	*84-117*

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Sample Information

Client Sample ID: B1-X Grab 6-8 **York Sample ID:** 13E0380-06

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
13E0380	183893A	Soil	May 7, 2013 8:45 am	05/09/2013

Total Solids **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: % Solids Prep

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
solids	% Solids	**86.6**		%	0.100	0.100	1	SM 2540G	05/13/2013 12:21	05/13/2013 12:21	AMC

Sample Information

Client Sample ID: B6 Grab 10-12 **York Sample ID:** 13E0380-07

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
13E0380	183893A	Soil	May 3, 2013 11:15 am	05/09/2013

Volatile Organics, 8260 List **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
630-20-6	1,1,1,2-Tetrachloroethane	ND		ug/kg dry	3.1	6.2	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 08:53	BK
5-6	1,1,1-Trichloroethane	ND		ug/kg dry	3.1	6.2	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 08:53	BK
79-34-5	1,1,2,2-Tetrachloroethane	ND		ug/kg dry	3.1	6.2	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 08:53	BK
76-13-1	,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113	ND		ug/kg dry	3.1	6.2	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 08:53	BK
79-00-5	1,1,2-Trichloroethane	ND		ug/kg dry	3.1	6.2	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 08:53	BK
75-34-3	1,1-Dichloroethane	ND		ug/kg dry	3.1	6.2	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 08:53	BK
75-35-4	1,1-Dichloroethylene	ND		ug/kg dry	3.1	6.2	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 08:53	BK
563-58-6	1,1-Dichloropropylene	ND		ug/kg dry	3.1	6.2	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 08:53	BK
87-61-6	1,2,3-Trichlorobenzene	ND		ug/kg dry	3.1	6.2	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 08:53	BK
96-18-4	1,2,3-Trichloropropane	ND		ug/kg dry	3.1	6.2	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 08:53	BK
120-82-1	1,2,4-Trichlorobenzene	ND		ug/kg dry	3.1	6.2	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 08:53	BK
95-63-6	1,2,4-Trimethylbenzene	ND		ug/kg dry	3.1	6.2	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 08:53	BK
96-12-8	1,2-Dibromo-3-chloropropane	ND		ug/kg dry	3.1	6.2	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 08:53	BK
106-93-4	1,2-Dibromoethane	ND		ug/kg dry	3.1	6.2	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 08:53	BK
95-50-1	1,2-Dichlorobenzene	ND		ug/kg dry	3.1	6.2	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 08:53	BK
107-06-2	1,2-Dichloroethane	ND		ug/kg dry	3.1	6.2	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 08:53	BK
78-87-5	1,2-Dichloropropane	ND		ug/kg dry	3.1	6.2	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 08:53	BK
108-67-8	1,3,5-Trimethylbenzene	ND		ug/kg dry	3.1	6.2	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 08:53	BK
541-73-1	1,3-Dichlorobenzene	ND		ug/kg dry	3.1	6.2	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 08:53	BK
142-28-9	1,3-Dichloropropane	ND		ug/kg dry	3.1	6.2	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 08:53	BK
46-7	1,4-Dichlorobenzene	ND		ug/kg dry	3.1	6.2	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 08:53	BK
-91-1	1,4-Dioxane	ND		ug/kg dry	62	120	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 08:53	BK
594-20-7	2,2-Dichloropropane	ND		ug/kg dry	3.1	6.2	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 08:53	BK

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Sample Information

Client Sample ID: B6 Grab 10-12 **York Sample ID:** 13E0380-07

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
13E0380	183893A	Soil	May 3, 2013 11:15 am	05/09/2013

Volatile Organics, 8260 List **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
78-93-3	2-Butanone	ND		ug/kg dry	3.1	6.2	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 08:53	BK
95-49-8	2-Chlorotoluene	ND		ug/kg dry	3.1	6.2	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 08:53	BK
106-43-4	4-Chlorotoluene	ND		ug/kg dry	3.1	6.2	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 08:53	BK
67-64-1	Acetone	ND		ug/kg dry	3.1	12	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 08:53	BK
71-43-2	Benzene	ND		ug/kg dry	3.1	6.2	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 08:53	BK
108-86-1	Bromobenzene	ND		ug/kg dry	3.1	6.2	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 08:53	BK
74-97-5	Bromochloromethane	ND		ug/kg dry	3.1	6.2	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 08:53	BK
75-27-4	Bromodichloromethane	ND		ug/kg dry	3.1	6.2	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 08:53	BK
75-25-2	Bromoform	ND		ug/kg dry	3.1	6.2	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 08:53	BK
74-83-9	Bromomethane	ND		ug/kg dry	3.1	6.2	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 08:53	BK
56-23-5	Carbon tetrachloride	ND		ug/kg dry	3.1	6.2	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 08:53	BK
108-90-7	Chlorobenzene	ND		ug/kg dry	3.1	6.2	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 08:53	BK
75-00-3	Chloroethane	ND		ug/kg dry	3.1	6.2	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 08:53	BK
67-66-3	Chloroform	ND		ug/kg dry	3.1	6.2	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 08:53	BK
74-87-3	Chloromethane	ND		ug/kg dry	3.1	6.2	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 08:53	BK
156-59-2	cis-1,2-Dichloroethylene	ND		ug/kg dry	3.1	6.2	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 08:53	BK
10061-01-5	cis-1,3-Dichloropropylene	ND		ug/kg dry	3.1	6.2	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 08:53	BK
124-48-1	Dibromochloromethane	ND		ug/kg dry	3.1	6.2	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 08:53	BK
74-95-3	Dibromomethane	ND		ug/kg dry	3.1	6.2	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 08:53	BK
75-71-8	Dichlorodifluoromethane	ND		ug/kg dry	3.1	6.2	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 08:53	BK
100-41-4	Ethyl Benzene	ND		ug/kg dry	3.1	6.2	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 08:53	BK
87-68-3	Hexachlorobutadiene	ND		ug/kg dry	3.1	6.2	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 08:53	BK
98-82-8	Isopropylbenzene	ND		ug/kg dry	3.1	6.2	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 08:53	BK
1634-04-4	Methyl tert-butyl ether (MTBE)	ND		ug/kg dry	3.1	6.2	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 08:53	BK
75-09-2	Methylene chloride	ND		ug/kg dry	3.1	12	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 08:53	BK
91-20-3	Naphthalene	ND		ug/kg dry	3.1	12	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 08:53	BK
104-51-8	n-Butylbenzene	ND		ug/kg dry	3.1	6.2	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 08:53	BK
103-65-1	n-Propylbenzene	ND		ug/kg dry	3.1	6.2	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 08:53	BK
95-47-6	o-Xylene	ND		ug/kg dry	3.1	6.2	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 08:53	BK
179601-23-1	p- & m- Xylenes	ND		ug/kg dry	6.2	12	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 08:53	BK
99-87-6	p-Isopropyltoluene	ND		ug/kg dry	3.1	6.2	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 08:53	BK
135-98-8	sec-Butylbenzene	ND		ug/kg dry	3.1	6.2	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 08:53	BK

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Sample Information

Client Sample ID: B6 Grab 10-12 **York Sample ID:** 13E0380-07

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
13E0380	183893A	Soil	May 3, 2013 11:15 am	05/09/2013

Volatile Organics, 8260 List **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
100-42-5	Styrene	ND		ug/kg dry	3.1	6.2	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 08:53	BK
98-06-6	tert-Butylbenzene	ND		ug/kg dry	3.1	6.2	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 08:53	BK
127-18-4	Tetrachloroethylene	ND		ug/kg dry	3.1	6.2	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 08:53	BK
108-88-3	Toluene	ND		ug/kg dry	3.1	6.2	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 08:53	BK
156-60-5	trans-1,2-Dichloroethylene	ND		ug/kg dry	3.1	6.2	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 08:53	BK
10061-02-6	trans-1,3-Dichloropropylene	ND		ug/kg dry	3.1	6.2	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 08:53	BK
79-01-6	Trichloroethylene	ND		ug/kg dry	3.1	6.2	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 08:53	BK
75-69-4	Trichlorofluoromethane	ND		ug/kg dry	3.1	6.2	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 08:53	BK
75-01-4	Vinyl Chloride	ND		ug/kg dry	3.1	6.2	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 08:53	BK
1330-20-7	Xylenes, Total	ND		ug/kg dry	9.4	19	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 08:53	BK
[illegible]-05-4	Vinyl acetate	ND		ug/kg dry	3.1	6.2	1	EPA SW846-8260B	05/10/2013 14:10	05/11/2013 08:53	BK

	Surrogate Recoveries	Result	Acceptance Range
17060-07-0	*Surrogate: 1,2-Dichloroethane-d4*	*102 %*	*73-130*
460-00-4	*Surrogate: p-Bromofluorobenzene*	*105 %*	*72-127*
2037-26-5	*Surrogate: Toluene-d8*	*102 %*	*84-117*

Total Solids **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: % Solids Prep

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
solids	% Solids	**85.1**		%	0.100	0.100	1	SM 2540G	05/13/2013 12:21	05/13/2013 12:21	AMC

Sample Information

Client Sample ID: B8 GW **York Sample ID:** 13E0380-08

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
13E0380	183893A	Water	May 8, 2013 11:20 am	05/09/2013

Volatile Organics, 8260 List **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 5030B

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
630-20-6	1,1,1,2-Tetrachloroethane	ND		ug/L	2.5	5.0	1	EPA SW846-8260B	05/13/2013 11:11	05/13/2013 11:11	BK
71-55-6	1,1,1-Trichloroethane	ND		ug/L	2.5	5.0	1	EPA SW846-8260B	05/13/2013 11:11	05/13/2013 11:11	BK
79-34-5	1,1,2,2-Tetrachloroethane	ND		ug/L	2.5	5.0	1	EPA SW846-8260B	05/13/2013 11:11	05/13/2013 11:11	BK
[illegible]-1	,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113	ND		ug/L	2.5	5.0	1	EPA SW846-8260B	05/13/2013 11:11	05/13/2013 11:11	BK
[illegible]9-00-5	1,1,2-Trichloroethane	ND		ug/L	2.5	5.0	1	EPA SW846-8260B	05/13/2013 11:11	05/13/2013 11:11	BK

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Sample Information

Client Sample ID: B8 GW **York Sample ID:** 13E0380-08

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
13E0380	183893A	Water	May 8, 2013 11:20 am	05/09/2013

Volatile Organics, 8260 List **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 5030B

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
75-34-3	1,1-Dichloroethane	ND		ug/L	2.5	5.0	1	EPA SW846-8260B	05/13/2013 11:11	05/13/2013 11:11	BK
75-35-4	1,1-Dichloroethylene	ND		ug/L	2.5	5.0	1	EPA SW846-8260B	05/13/2013 11:11	05/13/2013 11:11	BK
563-58-6	1,1-Dichloropropylene	ND		ug/L	2.5	5.0	1	EPA SW846-8260B	05/13/2013 11:11	05/13/2013 11:11	BK
87-61-6	1,2,3-Trichlorobenzene	ND		ug/L	2.5	5.0	1	EPA SW846-8260B	05/13/2013 11:11	05/13/2013 11:11	BK
96-18-4	1,2,3-Trichloropropane	ND		ug/L	2.5	5.0	1	EPA SW846-8260B	05/13/2013 11:11	05/13/2013 11:11	BK
120-82-1	1,2,4-Trichlorobenzene	ND		ug/L	2.5	5.0	1	EPA SW846-8260B	05/13/2013 11:11	05/13/2013 11:11	BK
95-63-6	1,2,4-Trimethylbenzene	ND		ug/L	2.5	5.0	1	EPA SW846-8260B	05/13/2013 11:11	05/13/2013 11:11	BK
96-12-8	1,2-Dibromo-3-chloropropane	ND		ug/L	2.5	5.0	1	EPA SW846-8260B	05/13/2013 11:11	05/13/2013 11:11	BK
106-93-4	1,2-Dibromoethane	ND		ug/L	2.5	5.0	1	EPA SW846-8260B	05/13/2013 11:11	05/13/2013 11:11	BK
95-50-1	1,2-Dichlorobenzene	ND		ug/L	2.5	5.0	1	EPA SW846-8260B	05/13/2013 11:11	05/13/2013 11:11	BK
107-06-2	1,2-Dichloroethane	ND		ug/L	2.5	5.0	1	EPA SW846-8260B	05/13/2013 11:11	05/13/2013 11:11	BK
78-87-5	1,2-Dichloropropane	ND		ug/L	2.5	5.0	1	EPA SW846-8260B	05/13/2013 11:11	05/13/2013 11:11	BK
108-67-8	1,3,5-Trimethylbenzene	ND		ug/L	2.5	5.0	1	EPA SW846-8260B	05/13/2013 11:11	05/13/2013 11:11	BK
541-73-1	1,3-Dichlorobenzene	ND		ug/L	2.5	5.0	1	EPA SW846-8260B	05/13/2013 11:11	05/13/2013 11:11	BK
142-28-9	1,3-Dichloropropane	ND		ug/L	2.5	5.0	1	EPA SW846-8260B	05/13/2013 11:11	05/13/2013 11:11	BK
106-46-7	1,4-Dichlorobenzene	ND		ug/L	2.5	5.0	1	EPA SW846-8260B	05/13/2013 11:11	05/13/2013 11:11	BK
594-20-7	2,2-Dichloropropane	ND		ug/L	2.5	5.0	1	EPA SW846-8260B	05/13/2013 11:11	05/13/2013 11:11	BK
78-93-3	2-Butanone	ND		ug/L	2.5	5.0	1	EPA SW846-8260B	05/13/2013 11:11	05/13/2013 11:11	BK
95-49-8	2-Chlorotoluene	ND		ug/L	2.5	5.0	1	EPA SW846-8260B	05/13/2013 11:11	05/13/2013 11:11	BK
106-43-4	4-Chlorotoluene	ND		ug/L	2.5	5.0	1	EPA SW846-8260B	05/13/2013 11:11	05/13/2013 11:11	BK
67-64-1	Acetone	**5.9**	B	ug/L	2.5	5.0	1	EPA SW846-8260B	05/13/2013 11:11	05/13/2013 11:11	BK
71-43-2	Benzene	ND		ug/L	2.5	5.0	1	EPA SW846-8260B	05/13/2013 11:11	05/13/2013 11:11	BK
108-86-1	Bromobenzene	ND		ug/L	2.5	5.0	1	EPA SW846-8260B	05/13/2013 11:11	05/13/2013 11:11	BK
74-97-5	Bromochloromethane	ND		ug/L	2.5	5.0	1	EPA SW846-8260B	05/13/2013 11:11	05/13/2013 11:11	BK
75-27-4	Bromodichloromethane	ND		ug/L	2.5	5.0	1	EPA SW846-8260B	05/13/2013 11:11	05/13/2013 11:11	BK
75-25-2	Bromoform	ND		ug/L	2.5	5.0	1	EPA SW846-8260B	05/13/2013 11:11	05/13/2013 11:11	BK
74-83-9	Bromomethane	ND		ug/L	2.5	5.0	1	EPA SW846-8260B	05/13/2013 11:11	05/13/2013 11:11	BK
56-23-5	Carbon tetrachloride	ND		ug/L	2.5	5.0	1	EPA SW846-8260B	05/13/2013 11:11	05/13/2013 11:11	BK
108-90-7	Chlorobenzene	ND		ug/L	2.5	5.0	1	EPA SW846-8260B	05/13/2013 11:11	05/13/2013 11:11	BK
75-00-3	Chloroethane	ND		ug/L	2.5	5.0	1	EPA SW846-8260B	05/13/2013 11:11	05/13/2013 11:11	BK
67-66-3	Chloroform	ND		ug/L	2.5	5.0	1	EPA SW846-8260B	05/13/2013 11:11	05/13/2013 11:11	BK
74-87-3	Chloromethane	ND		ug/L	2.5	5.0	1	EPA SW846-8260B	05/13/2013 11:11	05/13/2013 11:11	BK

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Sample Information

Client Sample ID: B8 GW

York Sample ID: 13E0380-08

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
13E0380	183893A	Water	May 8, 2013 11:20 am	05/09/2013

Volatile Organics, 8260 List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 5030B

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
156-59-2	cis-1,2-Dichloroethylene	ND		ug/L	2.5	5.0	1	EPA SW846-8260B	05/13/2013 11:11	05/13/2013 11:11	BK
10061-01-5	cis-1,3-Dichloropropylene	ND		ug/L	2.5	5.0	1	EPA SW846-8260B	05/13/2013 11:11	05/13/2013 11:11	BK
124-48-1	Dibromochloromethane	ND		ug/L	2.5	5.0	1	EPA SW846-8260B	05/13/2013 11:11	05/13/2013 11:11	BK
74-95-3	Dibromomethane	ND		ug/L	2.5	5.0	1	EPA SW846-8260B	05/13/2013 11:11	05/13/2013 11:11	BK
75-71-8	Dichlorodifluoromethane	ND		ug/L	2.5	5.0	1	EPA SW846-8260B	05/13/2013 11:11	05/13/2013 11:11	BK
100-41-4	Ethyl Benzene	ND		ug/L	2.5	5.0	1	EPA SW846-8260B	05/13/2013 11:11	05/13/2013 11:11	BK
87-68-3	Hexachlorobutadiene	ND		ug/L	2.5	5.0	1	EPA SW846-8260B	05/13/2013 11:11	05/13/2013 11:11	BK
98-82-8	Isopropylbenzene	ND		ug/L	2.5	5.0	1	EPA SW846-8260B	05/13/2013 11:11	05/13/2013 11:11	BK
1634-04-4	Methyl tert-butyl ether (MTBE)	ND		ug/L	2.5	5.0	1	EPA SW846-8260B	05/13/2013 11:11	05/13/2013 11:11	BK
75-09-2	Methylene chloride	**2.6**	J, B	ug/L	2.5	5.0	1	EPA SW846-8260B	05/13/2013 11:11	05/13/2013 11:11	BK
91-20-3	Naphthalene	ND		ug/L	2.5	5.0	1	EPA SW846-8260B	05/13/2013 11:11	05/13/2013 11:11	BK
104-51-8	n-Butylbenzene	ND		ug/L	2.5	5.0	1	EPA SW846-8260B	05/13/2013 11:11	05/13/2013 11:11	BK
103-65-1	n-Propylbenzene	ND		ug/L	2.5	5.0	1	EPA SW846-8260B	05/13/2013 11:11	05/13/2013 11:11	BK
95-47-6	o-Xylene	ND		ug/L	2.5	5.0	1	EPA SW846-8260B	05/13/2013 11:11	05/13/2013 11:11	BK
179601-23-1	p- & m- Xylenes	ND		ug/L	5.0	10	1	EPA SW846-8260B	05/13/2013 11:11	05/13/2013 11:11	BK
99-87-6	p-Isopropyltoluene	ND		ug/L	2.5	5.0	1	EPA SW846-8260B	05/13/2013 11:11	05/13/2013 11:11	BK
135-98-8	sec-Butylbenzene	ND		ug/L	2.5	5.0	1	EPA SW846-8260B	05/13/2013 11:11	05/13/2013 11:11	BK
100-42-5	Styrene	ND		ug/L	2.5	5.0	1	EPA SW846-8260B	05/13/2013 11:11	05/13/2013 11:11	BK
98-06-6	tert-Butylbenzene	ND		ug/L	2.5	5.0	1	EPA SW846-8260B	05/13/2013 11:11	05/13/2013 11:11	BK
127-18-4	Tetrachloroethylene	ND		ug/L	2.5	5.0	1	EPA SW846-8260B	05/13/2013 11:11	05/13/2013 11:11	BK
108-88-3	Toluene	ND		ug/L	2.5	5.0	1	EPA SW846-8260B	05/13/2013 11:11	05/13/2013 11:11	BK
156-60-5	trans-1,2-Dichloroethylene	ND		ug/L	2.5	5.0	1	EPA SW846-8260B	05/13/2013 11:11	05/13/2013 11:11	BK
10061-02-6	trans-1,3-Dichloropropylene	ND		ug/L	2.5	5.0	1	EPA SW846-8260B	05/13/2013 11:11	05/13/2013 11:11	BK
79-01-6	Trichloroethylene	ND		ug/L	2.5	5.0	1	EPA SW846-8260B	05/13/2013 11:11	05/13/2013 11:11	BK
75-69-4	Trichlorofluoromethane	ND		ug/L	2.5	5.0	1	EPA SW846-8260B	05/13/2013 11:11	05/13/2013 11:11	BK
75-01-4	Vinyl Chloride	ND		ug/L	2.5	5.0	1	EPA SW846-8260B	05/13/2013 11:11	05/13/2013 11:11	BK
1330-20-7	Xylenes, Total	ND		ug/L	7.5	15	1	EPA SW846-8260B	05/13/2013 11:11	05/13/2013 11:11	BK
108-05-4	Vinyl acetate	ND		ug/L	2.5	5.0	1	EPA SW846-8260B	05/13/2013 11:11	05/13/2013 11:11	BK

	Surrogate Recoveries	Result	Acceptance Range
17060-07-0	*Surrogate: 1.2-Dichloroethane-d4*	*97.4 %*	*72.6-129*
00-4	*Surrogate: p-Bromofluorobenzene*	*100 %*	*63.5-145*
-26-5	*Surrogate: Toluene-d8*	*101 %*	*81.2-127*

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Sample Information

Client Sample ID: B8 GW

York Sample ID: 13E0380-08

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
13E0380	183893A	Water	May 8, 2013 11:20 am	05/09/2013

Semi-Volatiles, 8270 Target List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3510C

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
83-32-9	Acenaphthene	ND		ug/L	1.86	5.26	1	EPA SW-846 8270C/EPA 625	05/10/2013 12:41	05/10/2013 18:06	SR
208-96-8	Acenaphthylene	ND		ug/L	1.83	5.26	1	EPA SW-846 8270C/EPA 625	05/10/2013 12:41	05/10/2013 18:06	SR
62-53-3	Aniline	ND		ug/L	1.58	5.26	1	EPA SW-846 8270C/EPA 625	05/10/2013 12:41	05/10/2013 18:06	SR
120-12-7	Anthracene	ND		ug/L	1.25	5.26	1	EPA SW-846 8270C/EPA 625	05/10/2013 12:41	05/10/2013 18:06	SR
56-55-3	Benzo(a)anthracene	ND		ug/L	1.38	5.26	1	EPA SW-846 8270C/EPA 625	05/10/2013 12:41	05/10/2013 18:06	SR
50-32-8	Benzo(a)pyrene	ND		ug/L	1.37	5.26	1	EPA SW-846 8270C/EPA 625	05/10/2013 12:41	05/10/2013 18:06	SR
205-99-2	Benzo(b)fluoranthene	ND		ug/L	1.48	5.26	1	EPA SW-846 8270C/EPA 625	05/10/2013 12:41	05/10/2013 18:06	SR
100-51-6	Benzyl alcohol	ND		ug/L	1.53	5.26	1	EPA SW-846 8270C/EPA 625	05/10/2013 12:41	05/10/2013 18:06	SR
191-24-2	Benzo(g,h,i)perylene	ND		ug/L	1.80	5.26	1	EPA SW-846 8270C/EPA 625	05/10/2013 12:41	05/10/2013 18:06	SR
207-08-9	Benzo(k)fluoranthene	ND		ug/L	1.93	5.26	1	EPA SW-846 8270C/EPA 625	05/10/2013 12:41	05/10/2013 18:06	SR
85-68-7	Benzyl butyl phthalate	ND		ug/L	0.897	5.26	1	EPA SW-846 8270C/EPA 625	05/10/2013 12:41	05/10/2013 18:06	SR
101-55-3	4-Bromophenyl phenyl ether	ND		ug/L	1.40	5.26	1	EPA SW-846 8270C/EPA 625	05/10/2013 12:41	05/10/2013 18:06	SR
59-50-7	4-Chloro-3-methylphenol	ND		ug/L	1.99	5.26	1	EPA SW-846 8270C/EPA 625	05/10/2013 12:41	05/10/2013 18:06	SR
106-47-8	4-Chloroaniline	ND		ug/L	3.14	5.26	1	EPA SW-846 8270C/EPA 625	05/10/2013 12:41	05/10/2013 18:06	SR
111-91-1	Bis(2-chloroethoxy)methane	ND		ug/L	1.86	5.26	1	EPA SW-846 8270C/EPA 625	05/10/2013 12:41	05/10/2013 18:06	SR
111-44-4	Bis(2-chloroethyl)ether	ND		ug/L	1.58	5.26	1	EPA SW-846 8270C/EPA 625	05/10/2013 12:41	05/10/2013 18:06	SR
108-60-1	Bis(2-chloroisopropyl)ether	ND		ug/L	3.15	5.26	1	EPA SW-846 8270C/EPA 625	05/10/2013 12:41	05/10/2013 18:06	SR
117-81-7	Bis(2-ethylhexyl)phthalate	ND		ug/L	5.03	5.26	1	EPA SW-846 8270C/EPA 625	05/10/2013 12:41	05/10/2013 18:06	SR
91-58-7	2-Chloronaphthalene	ND		ug/L	2.32	5.26	1	EPA SW-846 8270C/EPA 625	05/10/2013 12:41	05/10/2013 18:06	SR
95-57-8	2-Chlorophenol	ND		ug/L	1.88	5.26	1	EPA SW-846 8270C/EPA 625	05/10/2013 12:41	05/10/2013 18:06	SR
7005-72-3	4-Chlorophenyl phenyl ether	ND		ug/L	2.58	5.26	1	EPA SW-846 8270C/EPA 625	05/10/2013 12:41	05/10/2013 18:06	SR
218-01-9	Chrysene	ND		ug/L	1.55	5.26	1	EPA SW-846 8270C/EPA 625	05/10/2013 12:41	05/10/2013 18:06	SR
53-70-3	Dibenzo(a,h)anthracene	ND		ug/L	1.64	5.26	1	EPA SW-846 8270C/EPA 625	05/10/2013 12:41	05/10/2013 18:06	SR
132-64-9	Dibenzofuran	ND		ug/L	2.54	5.26	1	EPA SW-846 8270C/EPA 625	05/10/2013 12:41	05/10/2013 18:06	SR
84-74-2	Di-n-butyl phthalate	ND		ug/L	2.16	5.26	1	EPA SW-846 8270C/EPA 625	05/10/2013 12:41	05/10/2013 18:06	SR
541-73-1	1,3-Dichlorobenzene	ND		ug/L	2.75	5.26	1	EPA SW-846 8270C/EPA 625	05/10/2013 12:41	05/10/2013 18:06	SR
95-50-1	1,2-Dichlorobenzene	ND		ug/L	2.62	5.26	1	EPA SW-846 8270C/EPA 625	05/10/2013 12:41	05/10/2013 18:06	SR
106-46-7	1,4-Dichlorobenzene	ND		ug/L	2.33	5.26	1	EPA SW-846 8270C/EPA 625	05/10/2013 12:41	05/10/2013 18:06	SR
91-94-1	3,3'-Dichlorobenzidine	ND		ug/L	1.34	5.26	1	EPA SW-846 8270C/EPA 625	05/10/2013 12:41	05/10/2013 18:06	SR
120-83-2	2,4-Dichlorophenol	ND		ug/L	1.99	5.26	1	EPA SW-846 8270C/EPA 625	05/10/2013 12:41	05/10/2013 18:06	SR
84-66-2	Diethyl phthalate	ND		ug/L	2.69	5.26	1	EPA SW-846 8270C/EPA 625	05/10/2013 12:41	05/10/2013 18:06	SR
105-67-9	2,4-Dimethylphenol	ND		ug/L	1.68	5.26	1	EPA SW-846 8270C/EPA 625	05/10/2013 12:41	05/10/2013 18:06	SR

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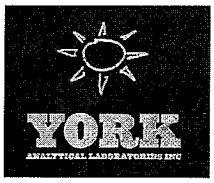

Sample Information

Client Sample ID: B8 GW

York Sample ID: 13E0380-08

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
13E0380	183893A	Water	May 8, 2013 11:20 am	05/09/2013

Semi-Volatiles, 8270 Target List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3510C

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
131-11-3	Dimethyl phthalate	ND		ug/L	2.01	5.26	1	EPA SW-846 8270C/EPA 625	05/10/2013 12:41	05/10/2013 18:06	SR
534-52-1	4,6-Dinitro-2-methylphenol	ND		ug/L	1.71	10.5	1	EPA SW-846 8270C/EPA 625	05/10/2013 12:41	05/10/2013 18:06	SR
51-28-5	2,4-Dinitrophenol	ND		ug/L	2.37	10.5	1	EPA SW-846 8270C/EPA 625	05/10/2013 12:41	05/10/2013 18:06	SR
606-20-2	2,6-Dinitrotoluene	ND		ug/L	1.69	5.26	1	EPA SW-846 8270C/EPA 625	05/10/2013 12:41	05/10/2013 18:06	SR
121-14-2	2,4-Dinitrotoluene	ND		ug/L	1.69	5.26	1	EPA SW-846 8270C/EPA 625	05/10/2013 12:41	05/10/2013 18:06	SR
117-84-0	Di-n-octyl phthalate	ND		ug/L	1.18	5.26	1	EPA SW-846 8270C/EPA 625	05/10/2013 12:41	05/10/2013 18:06	SR
206-44-0	Fluoranthene	ND		ug/L	1.31	5.26	1	EPA SW-846 8270C/EPA 625	05/10/2013 12:41	05/10/2013 18:06	SR
86-73-7	Fluorene	ND		ug/L	1.93	5.26	1	EPA SW-846 8270C/EPA 625	05/10/2013 12:41	05/10/2013 18:06	SR
118-74-1	Hexachlorobenzene	ND		ug/L	1.34	5.26	1	EPA SW-846 8270C/EPA 625	05/10/2013 12:41	05/10/2013 18:06	SR
87-68-3	Hexachlorobutadiene	ND		ug/L	2.94	5.26	1	EPA SW-846 8270C/EPA 625	05/10/2013 12:41	05/10/2013 18:06	SR
77-47-4	Hexachlorocyclopentadiene	ND		ug/L	2.66	5.26	1	EPA SW-846 8270C/EPA 625	05/10/2013 12:41	05/10/2013 18:06	SR
72-1	Hexachloroethane	ND		ug/L	3.20	5.26	1	EPA SW-846 8270C/EPA 625	05/10/2013 12:41	05/10/2013 18:06	SR
193-39-5	Indeno(1,2,3-cd)pyrene	ND		ug/L	1.79	5.26	1	EPA SW-846 8270C/EPA 625	05/10/2013 12:41	05/10/2013 18:06	SR
78-59-1	Isophorone	ND		ug/L	2.82	5.26	1	EPA SW-846 8270C/EPA 625	05/10/2013 12:41	05/10/2013 18:06	SR
91-57-6	2-Methylnaphthalene	ND		ug/L	2.91	5.26	1	EPA SW-846 8270C/EPA 625	05/10/2013 12:41	05/10/2013 18:06	SR
65794-96-9	3- & 4-Methylphenols	ND		ug/L	1.18	5.26	1	EPA SW-846 8270C/EPA 625	05/10/2013 12:41	05/10/2013 18:06	SR
95-48-7	2-Methylphenol	ND		ug/L	1.22	5.26	1	EPA SW-846 8270C/EPA 625	05/10/2013 12:41	05/10/2013 18:06	SR
91-20-3	Naphthalene	ND		ug/L	2.09	5.26	1	EPA SW-846 8270C/EPA 625	05/10/2013 12:41	05/10/2013 18:06	SR
100-01-6	4-Nitroaniline	ND		ug/L	2.82	5.26	1	EPA SW-846 8270C/EPA 625	05/10/2013 12:41	05/10/2013 18:06	SR
99-09-2	3-Nitroaniline	ND		ug/L	1.77	5.26	1	EPA SW-846 8270C/EPA 625	05/10/2013 12:41	05/10/2013 18:06	SR
88-74-4	2-Nitroaniline	ND		ug/L	1.77	5.26	1	EPA SW-846 8270C/EPA 625	05/10/2013 12:41	05/10/2013 18:06	SR
98-95-3	Nitrobenzene	ND		ug/L	1.78	5.26	1	EPA SW-846 8270C/EPA 625	05/10/2013 12:41	05/10/2013 18:06	SR
88-75-5	2-Nitrophenol	ND		ug/L	2.48	5.26	1	EPA SW-846 8270C/EPA 625	05/10/2013 12:41	05/10/2013 18:06	SR
100-02-7	4-Nitrophenol	ND		ug/L	1.75	5.26	1	EPA SW-846 8270C/EPA 625	05/10/2013 12:41	05/10/2013 18:06	SR
621-64-7	N-nitroso-di-n-propylamine	ND		ug/L	2.69	5.26	1	EPA SW-846 8270C/EPA 625	05/10/2013 12:41	05/10/2013 18:06	SR
62-75-9	N-Nitrosodimethylamine	ND		ug/L	0.409	5.26	1	EPA SW-846 8270C/EPA 625	05/10/2013 12:41	05/10/2013 18:06	SR
86-30-6	N-Nitrosodiphenylamine	ND		ug/L	5.26	5.26	1	EPA SW-846 8270C/EPA 625	05/10/2013 12:41	05/10/2013 18:06	SR
87-86-5	Pentachlorophenol	ND		ug/L	1.53	5.26	1	EPA SW-846 8270C/EPA 625	05/10/2013 12:41	05/10/2013 18:06	SR
85-01-8	Phenanthrene	ND		ug/L	1.44	5.26	1	EPA SW-846 8270C/EPA 625	05/10/2013 12:41	05/10/2013 18:06	SR
108-95-2	Phenol	ND		ug/L	1.16	5.26	1	EPA SW-846 8270C/EPA 625	05/10/2013 12:41	05/10/2013 18:06	SR
0-0	Pyrene	ND		ug/L	1.82	5.26	1	EPA SW-846 8270C/EPA 625	05/10/2013 12:41	05/10/2013 18:06	SR
110-86-1	Pyridine	ND		ug/L	4.12	5.26	1	EPA SW-846 8270C/EPA 625	05/10/2013 12:41	05/10/2013 18:06	SR

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Sample Information

Client Sample ID: B8 GW

York Sample ID: 13E0380-08

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
13E0380	183893A	Water	May 8, 2013 11:20 am	05/09/2013

Semi-Volatiles, 8270 Target List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3510C

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
120-82-1	1,2,4-Trichlorobenzene	ND		ug/L	2.60	5.26	1	EPA SW-846 8270C/EPA 625	05/10/2013 12:41	05/10/2013 18:06	SR
88-06-2	2,4,6-Trichlorophenol	ND		ug/L	1.84	5.26	1	EPA SW-846 8270C/EPA 625	05/10/2013 12:41	05/10/2013 18:06	SR
95-95-4	2,4,5-Trichlorophenol	ND		ug/L	2.01	5.26	1	EPA SW-846 8270C/EPA 625	05/10/2013 12:41	05/10/2013 18:06	SR

	Surrogate Recoveries	Result	Acceptance Range
5175-83-7	*Surrogate: 2,4,6-Tribromophenol*	*82.0 %*	*15-110*
321-60-8	*Surrogate: 2-Fluorobiphenyl*	*55.3 %*	*30-130*
367-12-4	*Surrogate: 2-Fluorophenol*	*23.4 %*	*15-110*
4165-60-0	*Surrogate: Nitrobenzene-d5*	*54.6 %*	*30-130*
4165-62-2	*Surrogate: Phenol-d5*	*18.4 %*	*10-110*
1718-51-0	*Surrogate: Terphenyl-d14*	*107 %*	*30-130*

Pesticides/PCBs, EPA TCL List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA SW846-3510C Low Level

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
8001-35-2	Toxaphene	ND		ug/L	0.0571	0.0571	1	EPA SW 846-8081/8082	05/14/2013 07:36	05/15/2013 16:45	JW
72-43-5	Methoxychlor	ND		ug/L	0.00571	0.00571	1	EPA SW 846-8081/8082	05/14/2013 07:36	05/15/2013 16:45	JW
1024-57-3	Heptachlor epoxide	ND		ug/L	0.00114	0.00114	1	EPA SW 846-8081/8082	05/14/2013 07:36	05/15/2013 16:45	JW
76-44-8	Heptachlor	ND		ug/L	0.00114	0.00114	1	EPA SW 846-8081/8082	05/14/2013 07:36	05/15/2013 16:45	JW
58-89-9	gamma-BHC (Lindane)	ND		ug/L	0.00114	0.00114	1	EPA SW 846-8081/8082	05/14/2013 07:36	05/15/2013 16:45	JW
53494-70-5	Endrin ketone	ND		ug/L	0.00114	0.00114	1	EPA SW 846-8081/8082	05/14/2013 07:36	05/15/2013 16:45	JW
7421-93-4	Endrin aldehyde	ND		ug/L	0.00114	0.00114	1	EPA SW 846-8081/8082	05/14/2013 07:36	05/15/2013 16:45	JW
72-20-8	Endrin	ND		ug/L	0.00114	0.00114	1	EPA SW 846-8081/8082	05/14/2013 07:36	05/15/2013 16:45	JW
1031-07-8	Endosulfan sulfate	ND		ug/L	0.00114	0.00114	1	EPA SW 846-8081/8082	05/14/2013 07:36	05/15/2013 16:45	JW
33213-65-9	Endosulfan II	ND		ug/L	0.00114	0.00114	1	EPA SW 846-8081/8082	05/14/2013 07:36	05/15/2013 16:45	JW
959-98-8	Endosulfan I	ND		ug/L	0.00114	0.00114	1	EPA SW 846-8081/8082	05/14/2013 07:36	05/15/2013 16:45	JW
60-57-1	Dieldrin	ND		ug/L	0.00114	0.00114	1	EPA SW 846-8081/8082	05/14/2013 07:36	05/15/2013 16:45	JW
319-86-8	delta-BHC	ND		ug/L	0.00114	0.00114	1	EPA SW 846-8081/8082	05/14/2013 07:36	05/15/2013 16:45	JW
57-74-9	Chlordane, total	ND		ug/L	0.00457	0.00457	1	EPA SW 846-8081/8082	05/14/2013 07:36	05/15/2013 16:45	JW
319-85-7	beta-BHC	ND		ug/L	0.00114	0.00114	1	EPA SW 846-8081/8082	05/14/2013 07:36	05/15/2013 16:45	JW
319-84-6	alpha-BHC	ND		ug/L	0.00114	0.00114	1	EPA SW 846-8081/8082	05/14/2013 07:36	05/15/2013 16:45	JW
309-00-2	Aldrin	ND		ug/L	0.00114	0.00114	1	EPA SW 846-8081/8082	05/14/2013 07:36	05/15/2013 16:45	JW
50-29-3	4,4'-DDT	ND		ug/L	0.00114	0.00114	1	EPA SW 846-8081/8082	05/14/2013 07:36	05/15/2013 16:45	JW
72-55-9	4,4'-DDE	ND		ug/L	0.00114	0.00114	1	EPA SW 846-8081/8082	05/14/2013 07:36	05/15/2013 16:45	JW
72-54-8	4,4'-DDD	ND		ug/L	0.00114	0.00114	1	EPA SW 846-8081/8082	05/14/2013 07:36	05/15/2013 16:45	JW

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Sample Information

Client Sample ID: B8 GW **York Sample ID:** 13E0380-08

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
13E0380	183893A	Water	May 8, 2013 11:20 am	05/09/2013

Pesticides/PCBs, EPA TCL List

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA SW846-3510C Low Level

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
11096-82-5	Aroclor 1260	ND		ug/L	0.0482	0.0571	1	EPA SW 846-8081/8082	05/14/2013 07:36	05/15/2013 14:08	JW
11097-69-1	Aroclor 1254	ND		ug/L	0.0482	0.0571	1	EPA SW 846-8081/8082	05/14/2013 07:36	05/15/2013 14:08	JW
12672-29-6	Aroclor 1248	ND		ug/L	0.0415	0.0571	1	EPA SW 846-8081/8082	05/14/2013 07:36	05/15/2013 14:08	JW
53469-21-9	Aroclor 1242	ND		ug/L	0.0415	0.0571	1	EPA SW 846-8081/8082	05/14/2013 07:36	05/15/2013 14:08	JW
11141-16-5	Aroclor 1232	ND		ug/L	0.0415	0.0571	1	EPA SW 846-8081/8082	05/14/2013 07:36	05/15/2013 14:08	JW
11104-28-2	Aroclor 1221	ND		ug/L	0.0415	0.0571	1	EPA SW 846-8081/8082	05/14/2013 07:36	05/15/2013 14:08	JW
12674-11-2	Aroclor 1016	ND		ug/L	0.0415	0.0571	1	EPA SW 846-8081/8082	05/14/2013 07:36	05/15/2013 14:08	JW
1336-36-3	Total PCBs	ND		ug/L	0.0415	0.0571	1	EPA SW 846-8081/8082	05/14/2013 07:36	05/15/2013 14:08	JW

	Surrogate Recoveries	Result	Acceptance Range
877-09-8	*Surrogate: Tetrachloro-m-xylene*	*49.0 %*	*30-150*
2051-24-3	*Surrogate: Decachlorobiphenyl*	*43.7 %*	*30-150*

rbicides, Target List

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3535A

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
94-75-7	2,4-D	ND		ug/L	5.00	5.00	1	EPA SW-846 8151Bm/EPA 615	05/13/2013 11:10	05/14/2013 15:21	JW
93-72-1	2,4,5-TP (Silvex)	ND		ug/L	5.00	5.00	1	EPA SW-846 8151Bm/EPA 615	05/13/2013 11:10	05/14/2013 15:21	JW
93-76-5	2,4,5-T	ND		ug/L	5.00	5.00	1	EPA SW-846 8151Bm/EPA 615	05/13/2013 11:10	05/14/2013 15:21	JW

	Surrogate Recoveries	Result	Acceptance Range
19719-28-9	*Surrogate: 2,4-Dichlorophenylacetic acia*	*98.8 %*	*33-153*

Metals, Dissolved - Target Analyte (TAL)

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3010A

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7429-90-5	Aluminum	ND		mg/L	0.010	0.010	1	EPA SW846-6010B	05/13/2013 16:39	05/13/2013 21:17	MW
7440-36-0	Antimony	ND		mg/L	0.003	0.005	1	EPA SW846-6010B	05/13/2013 16:39	05/13/2013 21:17	MW
7440-38-2	Arsenic	ND		mg/L	0.004	0.004	1	EPA SW846-6010B	05/13/2013 16:39	05/13/2013 21:17	MW
7440-39-3	Barium	**0.546**		mg/L	0.002	0.010	1	EPA SW846-6010B	05/13/2013 16:39	05/13/2013 21:17	MW
7440-41-7	Beryllium	ND		mg/L	0.001	0.001	1	EPA SW846-6010B	05/13/2013 16:39	05/13/2013 21:17	MW
7440-43-9	Cadmium	ND		mg/L	0.002	0.003	1	EPA SW846-6010B	05/13/2013 16:39	05/13/2013 21:17	MW
7440-70-2	Calcium	**126**		mg/L	0.019	0.050	1	EPA SW846-6010B	05/13/2013 16:39	05/13/2013 21:17	MW
7440-47-3	Chromium	ND		mg/L	0.002	0.005	1	EPA SW846-6010B	05/13/2013 16:39	05/13/2013 21:17	MW
7440-48-4	Cobalt	ND		mg/L	0.002	0.005	1	EPA SW846-6010B	05/13/2013 16:39	05/13/2013 21:17	MW
-50-8	Copper	**0.006**		mg/L	0.002	0.005	1	EPA SW846-6010B	05/13/2013 16:39	05/13/2013 21:17	MW
7439-89-6	Iron	**0.092**		mg/L	0.010	0.020	1	EPA SW846-6010B	05/13/2013 16:39	05/13/2013 21:17	MW

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Sample Information

Client Sample ID: B8 GW **York Sample ID:** 13E0380-08

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
13E0380	183893A	Water	May 8, 2013 11:20 am	05/09/2013

Metals, Dissolved - Target Analyte (TAL)

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3010A

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7439-92-1	Lead	**0.003**		mg/L	0.002	0.003	1	EPA SW846-6010B	05/13/2013 16:39	05/13/2013 21:17	MW
7439-95-4	Magnesium	**70.2**		mg/L	0.010	0.050	1	EPA SW846-6010B	05/13/2013 16:39	05/13/2013 21:17	MW
7439-96-5	Manganese	**0.319**		mg/L	0.002	0.005	1	EPA SW846-6010B	05/13/2013 16:39	05/13/2013 21:17	MW
7440-02-0	Nickel	ND		mg/L	0.001	0.005	1	EPA SW846-6010B	05/13/2013 16:39	05/13/2013 21:17	MW
7440-09-7	Potassium	**67.2**		mg/L	0.026	0.050	1	EPA SW846-6010B	05/13/2013 16:39	05/13/2013 21:17	MW
7782-49-2	Selenium	**0.014**		mg/L	0.007	0.010	1	EPA SW846-6010B	05/13/2013 16:39	05/13/2013 21:17	MW
7440-22-4	Silver	ND		mg/L	0.002	0.005	1	EPA SW846-6010B	05/13/2013 16:39	05/13/2013 21:17	MW
7440-23-5	Sodium	**476**		mg/L	0.061	0.100	1	EPA SW846-6010B	05/13/2013 16:39	05/13/2013 21:17	MW
7440-28-0	Thallium	ND		mg/L	0.003	0.010	1	EPA SW846-6010B	05/13/2013 16:39	05/13/2013 21:17	MW
7440-62-2	Vanadium	ND		mg/L	0.002	0.010	1	EPA SW846-6010B	05/13/2013 16:39	05/13/2013 21:17	MW
7440-66-6	Zinc	**0.026**		mg/L	0.002	0.020	1	EPA SW846-6010B	05/13/2013 16:39	05/13/2013 21:17	MW

Metals, Target Analyte

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3010A

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7429-90-5	Aluminum	**1.06**		mg/L	0.010	0.010	1	EPA SW846-6010B/EPA 200.7	05/13/2013 16:39	05/13/2013 21:34	MW
7440-36-0	Antimony	ND		mg/L	0.003	0.005	1	EPA SW846-6010B/EPA 200.7	05/13/2013 16:39	05/13/2013 21:34	MW
7440-38-2	Arsenic	**0.005**		mg/L	0.004	0.004	1	EPA SW846-6010B/EPA 200.7	05/13/2013 16:39	05/13/2013 21:34	MW
7440-39-3	Barium	**1.08**		mg/L	0.002	0.010	1	EPA SW846-6010B/EPA 200.7	05/13/2013 16:39	05/13/2013 21:34	MW
7440-41-7	Beryllium	ND		mg/L	0.001	0.001	1	EPA SW846-6010B/EPA 200.7	05/13/2013 16:39	05/13/2013 21:34	MW
7440-43-9	Cadmium	ND		mg/L	0.002	0.003	1	EPA SW846-6010B/EPA 200.7	05/13/2013 16:39	05/13/2013 21:34	MW
7440-70-2	Calcium	**136**		mg/L	0.019	0.050	1	EPA SW846-6010B/EPA 200.7	05/13/2013 16:39	05/13/2013 21:34	MW
7440-47-3	Chromium	**0.008**		mg/L	0.002	0.005	1	EPA SW846-6010B/EPA 200.7	05/13/2013 16:39	05/13/2013 21:34	MW
7440-48-4	Cobalt	ND		mg/L	0.002	0.005	1	EPA SW846-6010B/EPA 200.7	05/13/2013 16:39	05/13/2013 21:34	MW
7440-50-8	Copper	**0.041**		mg/L	0.002	0.005	1	EPA SW846-6010B/EPA 200.7	05/13/2013 16:39	05/13/2013 21:34	MW
7439-89-6	Iron	**22.8**		mg/L	0.010	0.020	1	EPA SW846-6010B/EPA 200.7	05/13/2013 16:39	05/13/2013 21:34	MW
7439-92-1	Lead	**0.151**		mg/L	0.002	0.003	1	EPA SW846-6010B/EPA 200.7	05/13/2013 16:39	05/13/2013 21:34	MW
7439-95-4	Magnesium	**74.8**		mg/L	0.010	0.050	1	EPA SW846-6010B/EPA 200.7	05/13/2013 16:39	05/13/2013 21:34	MW
7439-96-5	Manganese	**0.382**		mg/L	0.002	0.005	1	EPA SW846-6010B/EPA 200.7	05/13/2013 16:39	05/13/2013 21:34	MW
7440-02-0	Nickel	ND		mg/L	0.001	0.005	1	EPA SW846-6010B/EPA 200.7	05/13/2013 16:39	05/13/2013 21:34	MW
7440-09-7	Potassium	**68.7**		mg/L	0.026	0.050	1	EPA SW846-6010B/EPA 200.7	05/13/2013 16:39	05/13/2013 21:34	MW
7782-49-2	Selenium	**0.010**		mg/L	0.007	0.010	1	EPA SW846-6010B/EPA 200.7	05/13/2013 16:39	05/13/2013 21:34	MW
7440-22-4	Silver	ND		mg/L	0.002	0.005	1	EPA SW846-6010B/EPA 200.7	05/13/2013 16:39	05/13/2013 21:34	MW
7440-23-5	Sodium	**487**		mg/L	0.061	0.100	1	EPA SW846-6010B/EPA 200.7	05/13/2013 16:39	05/13/2013 21:34	MW
7440-28-0	Thallium	ND		mg/L	0.003	0.010	1	EPA SW846-6010B/EPA 200.7	05/13/2013 16:39	05/13/2013 21:34	MW

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Sample Information

Client Sample ID: B8 GW **York Sample ID:** 13E0380-08

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
13E0380	183893A	Water	May 8, 2013 11:20 am	05/09/2013

Metals, Target Analyte

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3010A

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7440-62-2	Vanadium	ND		mg/L	0.002	0.010	1	EPA SW846-6010B/EPA 200.7	05/13/2013 16:39	05/13/2013 21:34	MW
7440-66-6	Zinc	**0.156**		mg/L	0.002	0.020	1	EPA SW846-6010B/EPA 200.7	05/13/2013 16:39	05/13/2013 21:34	MW

Mercury by 7470/7471

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA SW846-7470

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7439-97-6	Mercury	ND		mg/L	0.0002	0.0002	1	EPA SW846-7470	05/13/2013 10:23	05/14/2013 10:43	AA

Mercury, Dissolved

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA SW846-7470

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7439-97-6	Mercury	ND		mg/L	0.000039000	0.0002000	1	EPA SW846-7470/EPA 245.1	05/13/2013 10:25	05/14/2013 10:43	AA

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Analytical Batch Summary

Batch ID: BE30442 **Preparation Method:** EPA 3550B **Prepared By:** SA

YORK Sample ID	Client Sample ID	Preparation Date
13E0380-01	B1 0-10 Comp	05/10/13
13E0380-02	B3 0-22 Comp	05/10/13
13E0380-03	B6 0-22 Comp	05/10/13
13E0380-04	B8 0-22 Comp	05/10/13
BE30442-BLK1	Blank	05/10/13
BE30442-BS1	LCS	05/10/13
BE30442-BSD1	LCS Dup	05/10/13

Batch ID: BE30445 **Preparation Method:** EPA 3510C **Prepared By:** KAM

YORK Sample ID	Client Sample ID	Preparation Date
13E0380-08	B8 GW	05/10/13
BE30445-BLK1	Blank	05/10/13
BE30445-BS1	LCS	05/10/13
BE30445-BSD1	LCS Dup	05/10/13

Batch ID: BE30478 **Preparation Method:** % Solids Prep **Prepared By:** AMC

YORK Sample ID	Client Sample ID	Preparation Date
13E0380-01	B1 0-10 Comp	05/13/13
13E0380-02	B3 0-22 Comp	05/13/13
13E0380-03	B6 0-22 Comp	05/13/13
13E0380-04	B8 0-22 Comp	05/13/13
13E0380-05	B8 Grab 10-12	05/13/13

Batch ID: BE30482 **Preparation Method:** EPA 3550B **Prepared By:** SA

YORK Sample ID	Client Sample ID	Preparation Date
13E0380-01	B1 0-10 Comp	05/10/13
13E0380-02	B3 0-22 Comp	05/10/13
13E0380-03	B6 0-22 Comp	05/10/13
13E0380-04	B8 0-22 Comp	05/10/13
BE30482-BLK1	Blank	05/10/13
BE30482-BS1	LCS	05/10/13
BE30482-BS2	LCS	05/10/13
BE30482-BSD1	LCS Dup	05/10/13

Batch ID: BE30489 **Preparation Method:** EPA 5035A **Prepared By:** EKM

YORK Sample ID	Client Sample ID	Preparation Date
13E0380-05	B8 Grab 10-12	05/10/13
13E0380-07	B6 Grab 10-12	05/10/13
BE30489-BLK1	Blank	05/10/13

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BE30489-BS1	LCS	05/10/13
BE30489-BSD1	LCS Dup	05/10/13

Batch ID: BE30503 **Preparation Method:** EPA 3550B/8151A **Prepared By:** TFD

YORK Sample ID	Client Sample ID	Preparation Date
13E0380-01	B1 0-10 Comp	05/13/13
13E0380-02	B3 0-22 Comp	05/13/13
13E0380-03	B6 0-22 Comp	05/13/13
13E0380-04	B8 0-22 Comp	05/13/13
BE30503-BLK1	Blank	05/13/13
BE30503-BS1	LCS	05/13/13
BE30503-BSD1	LCS Dup	05/13/13
BE30503-MS1	Matrix Spike	05/13/13

Batch ID: BE30506 **Preparation Method:** % Solids Prep **Prepared By:** AMC

YORK Sample ID	Client Sample ID	Preparation Date
13E0380-06	B1-X Grab 6-8	05/13/13
13E0380-07	B6 Grab 10-12	05/13/13

Batch ID: BE30513 **Preparation Method:** EPA 5035A **Prepared By:** EKM

YORK Sample ID	Client Sample ID	Preparation Date
13E0380-06	B1-X Grab 6-8	05/13/13
BE30513-BLK1	Blank	05/13/13
BE30513-BS1	LCS	05/13/13
BE30513-BSD1	LCS Dup	05/13/13

Batch ID: BE30514 **Preparation Method:** EPA 5030B **Prepared By:** EKM

YORK Sample ID	Client Sample ID	Preparation Date
13E0380-08	B8 GW	05/13/13
BE30514-BLK1	Blank	05/13/13
BE30514-BS1	LCS	05/13/13
BE30514-BSD1	LCS Dup	05/13/13

Batch ID: BE30519 **Preparation Method:** EPA 3050B **Prepared By:** MW

YORK Sample ID	Client Sample ID	Preparation Date
13E0380-01	B1 0-10 Comp	05/13/13
13E0380-02	B3 0-22 Comp	05/13/13
13E0380-03	B6 0-22 Comp	05/13/13
13E0380-04	B8 0-22 Comp	05/13/13
BE30519-BLK1	Blank	05/13/13
BE30519-SRM1	Reference	05/13/13

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Batch ID: BE30527 **Preparation Method:** EPA SW846-7470 **Prepared By:** AA

YORK Sample ID	Client Sample ID	Preparation Date
13E0380-08	B8 GW	05/13/13
BE30527-BLK1	Blank	05/13/13
BE30527-BS1	LCS	05/13/13

Batch ID: BE30528 **Preparation Method:** EPA SW846-7470 **Prepared By:** AA

YORK Sample ID	Client Sample ID	Preparation Date
13E0380-08	B8 GW	05/13/13
BE30528-BLK1	Blank	05/13/13
BE30528-BS1	LCS	05/13/13

Batch ID: BE30529 **Preparation Method:** EPA SW846-7471 **Prepared By:** AA

YORK Sample ID	Client Sample ID	Preparation Date
13E0380-01	B1 0-10 Comp	05/13/13
13E0380-02	B3 0-22 Comp	05/13/13
13E0380-03	B6 0-22 Comp	05/13/13
13E0380-04	B8 0-22 Comp	05/13/13
BE30529-BLK1	Blank	05/13/13
BE30529-BS1	LCS	05/13/13
BE30529-DUP1	Duplicate	05/13/13
BE30529-MS1	Matrix Spike	05/13/13

Batch ID: BE30539 **Preparation Method:** EPA 3535A **Prepared By:** TFD

YORK Sample ID	Client Sample ID	Preparation Date
13E0380-08	B8 GW	05/13/13
BE30539-BLK1	Blank	05/13/13
BE30539-BS1	LCS	05/13/13
BE30539-BSD1	LCS Dup	05/13/13

Batch ID: BE30570 **Preparation Method:** EPA 3010A **Prepared By:** MW

YORK Sample ID	Client Sample ID	Preparation Date
13E0380-08	B8 GW	05/13/13
BE30570-BLK1	Blank	05/13/13
BE30570-SRM1	Reference	05/13/13
BE30570-SRM2	Reference	05/13/13

Batch ID: BE30583 **Preparation Method:** EPA SW846-3510C Low Level **Prepared By:** KAM

YORK Sample ID	Client Sample ID	Preparation Date
13E0380-08	B8 GW	05/14/13
BE30583-BLK1	Blank	05/14/13
BE30583-BS1	LCS	05/14/13

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BE30583-BS2	LCS	05/14/13
BE30583-BSD1	LCS Dup	05/14/13
BE30583-BSD2	LCS Dup	05/14/13

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Volatile Organic Compounds by EPA SW846-8260B - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BE30489 - EPA 5035A											
Blank (BE30489-BLK1)											Prepared: 05/10/2013 Analyzed: 05/11/2013
1,1,1,2-Tetrachloroethane	ND	5.0	ug/kg wet								
1,1,1-Trichloroethane	ND	5.0	"								
1,1,2,2-Tetrachloroethane	ND	5.0	"								
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	5.0	"								
1,1,2-Trichloroethane	ND	5.0	"								
1,1-Dichloroethane	ND	5.0	"								
1,1-Dichloroethylene	ND	5.0	"								
1,1-Dichloropropylene	ND	5.0	"								
1,2,3-Trichlorobenzene	ND	5.0	"								
1,2,3-Trichloropropane	ND	5.0	"								
1,2,4-Trichlorobenzene	ND	5.0	"								
1,2,4-Trimethylbenzene	ND	5.0	"								
1,2-Dibromo-3-chloropropane	ND	5.0	"								
1,2-Dibromoethane	ND	5.0	"								
1,2-Dichlorobenzene	ND	5.0	"								
1,2-Dichloroethane	ND	5.0	"								
1,2-Dichloropropane	ND	5.0	"								
1,3,5-Trimethylbenzene	ND	5.0	"								
1,3-Dichlorobenzene	ND	5.0	"								
1,3-Dichloropropane	ND	5.0	"								
1,4-Dichlorobenzene	ND	5.0	"								
1,4-Dioxane	ND	100	"								
2,2-Dichloropropane	ND	5.0	"								
2-Butanone	ND	5.0	"								
2-Chlorotoluene	ND	5.0	"								
4-Chlorotoluene	ND	5.0	"								
Acetone	5.1	10	"								
Benzene	ND	5.0	"								
Bromobenzene	ND	5.0	"								
Bromochloromethane	ND	5.0	"								
Bromodichloromethane	ND	5.0	"								
Bromoform	ND	5.0	"								
Bromomethane	ND	5.0	"								
Carbon tetrachloride	ND	5.0	"								
Chlorobenzene	ND	5.0	"								
Chloroethane	ND	5.0	"								
Chloroform	ND	5.0	"								
Chloromethane	ND	5.0	"								
cis-1,2-Dichloroethylene	ND	5.0	"								
cis-1,3-Dichloropropylene	ND	5.0	"								
Dibromochloromethane	ND	5.0	"								
Dibromomethane	ND	5.0	"								
Dichlorodifluoromethane	ND	5.0	"								
Ethyl Benzene	ND	5.0	"								
Hexachlorobutadiene	ND	5.0	"								
Isopropylbenzene	ND	5.0	"								
Methyl tert-butyl ether (MTBE)	ND	5.0	"								
Methylene chloride	ND	10	"								
Naphthalene	ND	10	"								
n-Butylbenzene	ND	5.0	"								
n-Propylbenzene	ND	5.0	"								

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Volatile Organic Compounds by EPA SW846-8260B - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BE30489 - EPA 5035A											
Blank (BE30489-BLK1)									Prepared: 05/10/2013 Analyzed: 05/11/2013		
o-Xylene	ND	5.0	ug/kg wet								
p- & m- Xylenes	ND	10	"								
p-Isopropyltoluene	ND	5.0	"								
sec-Butylbenzene	ND	5.0	"								
Styrene	ND	5.0	"								
tert-Butylbenzene	ND	5.0	"								
Tetrachloroethylene	ND	5.0	"								
Toluene	ND	5.0	"								
trans-1,2-Dichloroethylene	ND	5.0	"								
trans-1,3-Dichloropropylene	ND	5.0	"								
Trichloroethylene	ND	5.0	"								
Trichlorofluoromethane	ND	5.0	"								
Vinyl Chloride	ND	5.0	"								
Xylenes, Total	ND	15	"								
Vinyl acetate	ND	5.0	"								
Surrogate: 1,2-Dichloroethane-d4	*45.9*		*ug/L*	*50.0*		*91.8*	*73-130*				
Surrogate: p-Bromofluorobenzene	*48.7*		*"*	*50.0*		*97.5*	*72-127*				
Surrogate: Toluene-d8	*49.0*		*"*	*50.0*		*98.1*	*84-117*				
S (BE30489-BS1)									Prepared: 05/10/2013 Analyzed: 05/11/2013		
,1,1,2-Tetrachloroethane	46		ug/L	50.0		91.8	72-132				
1,1,1-Trichloroethane	47		"	50.0		93.9	77-131				
1,1,2,2-Tetrachloroethane	42		"	50.0		83.3	68-129				
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	54		"	50.0		107	75-143				
1,1,2-Trichloroethane	46		"	50.0		91.1	72-128				
1,1-Dichloroethane	48		"	50.0		95.9	78-133				
1,1-Dichloroethylene	51		"	50.0		103	71-142				
1,1-Dichloropropylene	45		"	50.0		89.1	77-124				
1,2,3-Trichlorobenzene	43		"	50.0		85.1	65-134				
1,2,3-Trichloropropane	40		"	50.0		79.5	65-127				
1,2,4-Trichlorobenzene	42		"	50.0		83.3	59-133				
1,2,4-Trimethylbenzene	43		"	50.0		85.0	68-128				
1,2-Dibromo-3-chloropropane	38		"	50.0		76.8	58-145				
1,2-Dibromoethane	45		"	50.0		89.4	73-128				
1,2-Dichlorobenzene	43		"	50.0		86.4	69-126				
1,2-Dichloroethane	44		"	50.0		87.9	78-131				
1,2-Dichloropropane	46		"	50.0		91.8	72-129				
1,3,5-Trimethylbenzene	43		"	50.0		86.7	67-125				
1,3-Dichlorobenzene	43		"	50.0		85.4	67-125				
1,3-Dichloropropane	45		"	50.0		90.1	73-126				
1,4-Dichlorobenzene	43		"	50.0		85.2	67-127				
1,4-Dioxane	70		"	50.0		140	10-265				
2,2-Dichloropropane	44		"	50.0		88.3	68-133				
2-Butanone	45		"	50.0		89.8	49-138				
2-Chlorotoluene	42		"	50.0		84.4	61-121				
4-Chlorotoluene	43		"	50.0		86.4	65-126				
Acetone	31		"	50.0		61.2	21-131				
Benzene	48		"	50.0		96.6	81-125				
mobenzene	42		"	50.0		83.6	65-125				
mochloromethane	46		"	50.0		92.6	78-127				
Bromodichloromethane	44		"	50.0		87.1	73-131				
Bromoform	44		"	50.0		87.9	66-137				

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Volatile Organic Compounds by EPA SW846-8260B - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BE30489 - EPA 5035A											
LCS (BE30489-BS1)									Prepared: 05/10/2013 Analyzed: 05/11/2013		
Bromomethane	49		ug/L	50.0		98.2	55-144				
Carbon tetrachloride	49		"	50.0		97.8	74-137				
Chlorobenzene	46		"	50.0		91.9	75-127				
Chloroethane	51		"	50.0		103	65-138				
Chloroform	47		"	50.0		94.3	82-128				
Chloromethane	47		"	50.0		94.5	51-138				
cis-1,2-Dichloroethylene	49		"	50.0		97.8	77-130				
cis-1,3-Dichloropropylene	45		"	50.0		90.4	68-123				
Dibromochloromethane	45		"	50.0		90.4	73-136				
Dibromomethane	45		"	50.0		90.4	75-131				
Dichlorodifluoromethane	39		"	50.0		77.5	10-183				
Ethyl Benzene	47		"	50.0		93.5	75-130				
Hexachlorobutadiene	44		"	50.0		88.2	59-130				
Isopropylbenzene	44		"	50.0		87.2	68-135				
Methyl tert-butyl ether (MTBE)	49		"	50.0		98.0	76-136				
Methylene chloride	50		"	50.0		101	55-143				
Naphthalene	48		"	50.0		95.5	65-140				
n-Butylbenzene	40		"	50.0		80.3	63-123				
n-Propylbenzene	43		"	50.0		86.4	65-127				
o-Xylene	45		"	50.0		89.6	71-123				
p- & m- Xylenes	91		"	100		91.3	72-127				
p-Isopropyltoluene	44		"	50.0		88.6	69-128				
sec-Butylbenzene	44		"	50.0		87.9	69-125				
Styrene	48		"	50.0		96.1	74-127				
tert-Butylbenzene	39		"	50.0		78.8	59-164				
Tetrachloroethylene	53		"	50.0		107	65-151				
Toluene	47		"	50.0		93.5	72-127				
trans-1,2-Dichloroethylene	47		"	50.0		94.7	73-137				
trans-1,3-Dichloropropylene	42		"	50.0		83.8	67-131				
Trichloroethylene	45		"	50.0		89.5	73-129				
Trichlorofluoromethane	51		"	50.0		102	69-136				
Vinyl Chloride	48		"	50.0		95.6	58-132				
Vinyl acetate	39		"	50.0		78.3	10-84				
Surrogate: 1,2-Dichloroethane-d4	*46.7*		"	*50.0*		*93.4*	*73-130*				
Surrogate: p-Bromofluorobenzene	*49.5*		"	*50.0*		*99.0*	*72-127*				
Surrogate: Toluene-d8	*49.4*		"	*50.0*		*98.8*	*84-117*				

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Volatile Organic Compounds by EPA SW846-8260B - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BE30489 - EPA 5035A											
LCS Dup (BE30489-BSD1)									Prepared: 05/10/2013 Analyzed: 05/11/2013		
1,1,1,2-Tetrachloroethane	46		ug/L	50.0		92.5	72-132		0.716	30	
1,1,1-Trichloroethane	43		"	50.0		85.0	77-131		9.86	30	
1,1,2,2-Tetrachloroethane	43		"	50.0		86.2	68-129		3.40	30	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	46		"	50.0		93.0	75-143		14.4	30	
1,1,2-Trichloroethane	44		"	50.0		87.4	72-128		4.19	30	
1,1-Dichloroethane	45		"	50.0		90.1	78-133		6.15	30	
1,1-Dichloroethylene	45		"	50.0		90.6	71-142		12.6	30	
1,1-Dichloropropylene	42		"	50.0		83.1	77-124		6.97	30	
1,2,3-Trichlorobenzene	41		"	50.0		81.4	65-134		4.44	30	
1,2,3-Trichloropropane	42		"	50.0		84.6	65-127		6.19	30	
1,2,4-Trichlorobenzene	40		"	50.0		79.7	59-133		4.37	30	
1,2,4-Trimethylbenzene	42		"	50.0		83.1	68-128		2.31	30	
1,2-Dibromo-3-chloropropane	36		"	50.0		72.8	58-145		5.30	30	
1,2-Dibromoethane	45		"	50.0		89.4	73-128		0.00	30	
1,2-Dichlorobenzene	42		"	50.0		84.3	69-126		2.46	30	
1,2-Dichloroethane	40		"	50.0		80.7	78-131		8.54	30	
1,2-Dichloropropane	45		"	50.0		90.5	72-129		1.43	30	
1,3,5-Trimethylbenzene	43		"	50.0		85.4	67-125		1.53	30	
' 3-Dichlorobenzene	42		"	50.0		84.5	67-125		1.11	30	
Dichloropropane	45		"	50.0		89.9	73-126		0.245	30	
.,4-Dichlorobenzene	42		"	50.0		84.9	67-127		0.259	30	
1,4-Dioxane	62		"	50.0		125	10-265		11.4	30	
2,2-Dichloropropane	39		"	50.0		78.8	68-133		11.4	30	
2-Butanone	42		"	50.0		84.2	49-138		6.48	30	
2-Chlorotoluene	42		"	50.0		83.3	61-121		1.34	30	
4-Chlorotoluene	43		"	50.0		85.8	65-126		0.674	30	
Acetone	28		"	50.0		56.6	21-131		7.88	30	
Benzene	46		"	50.0		91.3	81-125		5.68	30	
Bromobenzene	42		"	50.0		83.1	65-125		0.648	30	
Bromochloromethane	44		"	50.0		87.9	78-127		5.16	30	
Bromodichloromethane	43		"	50.0		86.5	73-131		0.691	30	
Bromoform	43		"	50.0		86.2	66-137		1.88	30	
Bromomethane	42		"	50.0		85.0	55-144		14.4	30	
Carbon tetrachloride	44		"	50.0		87.1	74-137		11.6	30	
Chlorobenzene	45		"	50.0		90.7	75-127		1.31	30	
Chloroethane	46		"	50.0		91.8	65-138		11.4	30	
Chloroform	43		"	50.0		85.9	82-128		9.37	30	
Chloromethane	42		"	50.0		85.0	51-138		10.6	30	
cis-1,2-Dichloroethylene	47		"	50.0		93.1	77-130		4.92	30	
cis-1,3-Dichloropropylene	45		"	50.0		90.6	68-123		0.265	30	
Dibromochloromethane	45		"	50.0		90.7	73-136		0.287	30	
Dibromomethane	46		"	50.0		91.3	75-131		0.969	30	
Dichlorodifluoromethane	35		"	50.0		70.3	10-183		9.80	30	
Ethyl Benzene	46		"	50.0		91.5	75-130		2.18	30	
Hexachlorobutadiene	41		"	50.0		82.4	59-130		6.82	30	
Isopropylbenzene	43		"	50.0		85.2	68-135		2.39	30	
Methyl tert-butyl ether (MTBE)	45		"	50.0		89.4	76-136		9.18	30	
Methylene chloride	44		"	50.0		87.3	55-143		14.2	30	
hthalene	43		"	50.0		86.3	65-140		10.2	30	
utylbenzene	39		"	50.0		78.9	63-123		1.66	30	
n-Propylbenzene	43		"	50.0		85.2	65-127		1.42	30	

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Volatile Organic Compounds by EPA SW846-8260B - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BE30489 - EPA 5035A											
LCS Dup (BE30489-BSD1)								Prepared: 05/10/2013 Analyzed: 05/11/2013			
o-Xylene	44		ug/L	50.0		87.8	71-123		1.96	30	
p- & m- Xylenes	90		"	100		89.6	72-127		1.87	30	
p-Isopropyltoluene	43		"	50.0		86.9	69-128		2.01	30	
sec-Butylbenzene	43		"	50.0		86.9	69-125		1.17	30	
Styrene	47		"	50.0		93.3	74-127		2.87	30	
tert-Butylbenzene	39		"	50.0		78.1	59-164		0.841	30	
Tetrachloroethylene	51		"	50.0		102	65-151		4.06	30	
Toluene	45		"	50.0		90.4	72-127		3.39	30	
trans-1,2-Dichloroethylene	42		"	50.0		84.0	73-137		12.0	30	
trans-1,3-Dichloropropylene	42		"	50.0		84.3	67-131		0.595	30	
Trichloroethylene	45		"	50.0		89.6	73-129		0.112	30	
Trichlorofluoromethane	47		"	50.0		93.7	69-136		8.70	30	
Vinyl Chloride	42		"	50.0		84.7	58-132		12.1	30	
Vinyl acetate	37		"	50.0		74.2	10-84		5.43	30	
Surrogate: 1,2-Dichloroethane-d4	*43.7*		*"*	*50.0*		*87.4*	*73-130*				
Surrogate: p-Bromofluorobenzene	*49.8*		*"*	*50.0*		*99.5*	*72-127*				
Surrogate: Toluene-d8	*49.1*		*"*	*50.0*		*98.2*	*84-117*				
Batch BE30513 - EPA 5035A											
Blank (BE30513-BLK1)								Prepared & Analyzed: 05/13/2013			
1,1,1,2-Tetrachloroethane	ND	5.0	ug/kg wet								
1,1,1-Trichloroethane	ND	5.0	"								
1,1,2,2-Tetrachloroethane	ND	5.0	"								
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	5.0	"								
1,1,2-Trichloroethane	ND	5.0	"								
1,1-Dichloroethane	ND	5.0	"								
1,1-Dichloroethylene	ND	5.0	"								
1,1-Dichloropropylene	ND	5.0	"								
1,2,3-Trichlorobenzene	ND	5.0	"								
1,2,3-Trichloropropane	ND	5.0	"								
1,2,4-Trichlorobenzene	ND	5.0	"								
1,2,4-Trimethylbenzene	ND	5.0	"								
1,2-Dibromo-3-chloropropane	ND	5.0	"								
1,2-Dibromoethane	ND	5.0	"								
1,2-Dichlorobenzene	ND	5.0	"								
1,2-Dichloroethane	ND	5.0	"								
1,2-Dichloropropane	ND	5.0	"								
1,3,5-Trimethylbenzene	ND	5.0	"								
1,3-Dichlorobenzene	ND	5.0	"								
1,3-Dichloropropane	ND	5.0	"								
1,4-Dichlorobenzene	ND	5.0	"								
1,4-Dioxane	ND	100	"								
2,2-Dichloropropane	ND	5.0	"								
2-Butanone	ND	5.0	"								
2-Chlorotoluene	ND	5.0	"								
4-Chlorotoluene	ND	5.0	"								
Acetone	ND	10	"								
Benzene	ND	5.0	"								
Bromobenzene	ND	5.0	"								
Bromochloromethane	ND	5.0	"								
Bromodichloromethane	ND	5.0	"								

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Volatile Organic Compounds by EPA SW846-8260B - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BE30513 - EPA 5035A											
Blank (BE30513-BLK1)									Prepared & Analyzed: 05/13/2013		
Bromoform	ND	5.0	ug/kg wet								
Bromomethane	ND	5.0	"								
Carbon tetrachloride	ND	5.0	"								
Chlorobenzene	ND	5.0	"								
Chloroethane	ND	5.0	"								
Chloroform	ND	5.0	"								
Chloromethane	ND	5.0	"								
cis-1,2-Dichloroethylene	ND	5.0	"								
cis-1,3-Dichloropropylene	ND	5.0	"								
Dibromochloromethane	ND	5.0	"								
Dibromomethane	ND	5.0	"								
Dichlorodifluoromethane	ND	5.0	"								
Ethyl Benzene	ND	5.0	"								
Hexachlorobutadiene	ND	5.0	"								
Isopropylbenzene	ND	5.0	"								
Methyl tert-butyl ether (MTBE)	ND	5.0	"								
Methylene chloride	ND	10	"								
Naphthalene	ND	10	"								
Butylbenzene	ND	5.0	"								
opylbenzene	ND	5.0	"								
Xylene	ND	5.0	"								
p- & m- Xylenes	ND	10	"								
p-Isopropyltoluene	ND	5.0	"								
sec-Butylbenzene	ND	5.0	"								
Styrene	ND	5.0	"								
tert-Butylbenzene	ND	5.0	"								
Tetrachloroethylene	ND	5.0	"								
Toluene	ND	5.0	"								
trans-1,2-Dichloroethylene	ND	5.0	"								
trans-1,3-Dichloropropylene	ND	5.0	"								
Trichloroethylene	ND	5.0	"								
Trichlorofluoromethane	ND	5.0	"								
Vinyl Chloride	ND	5.0	"								
Xylenes, Total	ND	15	"								
Vinyl acetate	ND	5.0	"								
Surrogate: 1,2-Dichloroethane-d4	*44.9*		*ug/L*	*50.0*		*89.8*	*73-130*				
Surrogate: p-Bromofluorobenzene	*49.5*		*"*	*50.0*		*99.0*	*72-127*				
Surrogate: Toluene-d8	*48.9*		*"*	*50.0*		*97.8*	*84-117*				

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Volatile Organic Compounds by EPA SW846-8260B - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BE30513 - EPA 5035A											
LCS (BE30513-BS1)							Prepared & Analyzed: 05/13/2013				
1,1,1,2-Tetrachloroethane	46		ug/L	50.0		92.2	72-132				
1,1,1-Trichloroethane	47		"	50.0		93.7	77-131				
1,1,2,2-Tetrachloroethane	45		"	50.0		90.8	68-129				
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	53		"	50.0		106	75-143				
1,1,2-Trichloroethane	46		"	50.0		92.3	72-128				
1,1-Dichloroethane	49		"	50.0		98.2	78-133				
1,1-Dichloroethylene	52		"	50.0		104	71-142				
1,1-Dichloropropylene	44		"	50.0		87.1	77-124				
1,2,3-Trichlorobenzene	44		"	50.0		87.9	65-134				
1,2,3-Trichloropropane	42		"	50.0		84.6	65-127				
1,2,4-Trichlorobenzene	44		"	50.0		88.1	59-133				
1,2,4-Trimethylbenzene	41		"	50.0		82.9	68-128				
1,2-Dibromo-3-chloropropane	41		"	50.0		82.0	58-145				
1,2-Dibromoethane	47		"	50.0		94.8	73-128				
1,2-Dichlorobenzene	43		"	50.0		86.0	69-126				
1,2-Dichloroethane	46		"	50.0		91.6	78-131				
1,2-Dichloropropane	46		"	50.0		91.5	72-129				
1,3,5-Trimethylbenzene	42		"	50.0		83.9	67-125				
1,3-Dichlorobenzene	43		"	50.0		86.8	67-125				
1,3-Dichloropropane	47		"	50.0		94.3	73-126				
1,4-Dichlorobenzene	44		"	50.0		87.0	67-127				
1,4-Dioxane	77		"	50.0		153	10-265				
2,2-Dichloropropane	48		"	50.0		95.1	68-133				
2-Butanone	53		"	50.0		105	49-138				
2-Chlorotoluene	41		"	50.0		82.6	61-121				
4-Chlorotoluene	43		"	50.0		86.2	65-126				
Acetone	36		"	50.0		72.2	21-131				
Benzene	49		"	50.0		98.2	81-125				
Bromobenzene	41		"	50.0		82.4	65-125				
Bromochloromethane	49		"	50.0		97.6	78-127				
Bromodichloromethane	44		"	50.0		87.0	73-131				
Bromoform	47		"	50.0		93.9	66-137				
Bromomethane	49		"	50.0		98.5	55-144				
Carbon tetrachloride	48		"	50.0		95.8	74-137				
Chlorobenzene	46		"	50.0		91.7	75-127				
Chloroethane	53		"	50.0		106	65-138				
Chloroform	48		"	50.0		95.4	82-128				
Chloromethane	47		"	50.0		93.1	51-138				
cis-1,2-Dichloroethylene	50		"	50.0		100	77-130				
cis-1,3-Dichloropropylene	48		"	50.0		95.6	68-123				
Dibromochloromethane	47		"	50.0		94.6	73-136				
Dibromomethane	46		"	50.0		92.9	75-131				
Dichlorodifluoromethane	37		"	50.0		73.3	10-183				
Ethyl Benzene	46		"	50.0		91.4	75-130				
Hexachlorobutadiene	42		"	50.0		83.9	59-130				
Isopropylbenzene	42		"	50.0		83.2	68-135				
Methyl tert-butyl ether (MTBE)	55		"	50.0		110	76-136				
Methylene chloride	53		"	50.0		105	55-143				
Naphthalene	48		"	50.0		95.8	65-140				
n-Butylbenzene	40		"	50.0		80.8	63-123				
n-Propylbenzene	42		"	50.0		84.0	65-127				

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Volatile Organic Compounds by EPA SW846-8260B - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BE30513 - EPA 5035A											
LCS (BE30513-BS1)								Prepared & Analyzed: 05/13/2013			
o-Xylene	44		ug/L	50.0		87.5	71-123				
p- & m- Xylenes	90		"	100		90.1	72-127				
p-Isopropyltoluene	43		"	50.0		85.5	69-128				
sec-Butylbenzene	43		"	50.0		85.1	69-125				
Styrene	48		"	50.0		95.6	74-127				
tert-Butylbenzene	43		"	50.0		85.7	59-164				
Tetrachloroethylene	43		"	50.0		85.9	65-151				
Toluene	46		"	50.0		91.2	72-127				
trans-1,2-Dichloroethylene	49		"	50.0		97.7	73-137				
trans-1,3-Dichloropropylene	46		"	50.0		91.9	67-131				
Trichloroethylene	44		"	50.0		88.4	73-129				
Trichlorofluoromethane	52		"	50.0		103	69-136				
Vinyl Chloride	47		"	50.0		93.5	58-132				
Vinyl acetate	48		"	50.0		95.5	10-84	High Bias			
Surrogate: 1,2-Dichloroethane-d4	*47.9*		"	*50.0*		*95.8*	*73-130*				
Surrogate: p-Bromofluorobenzene	*48.2*		"	*50.0*		*96.4*	*72-127*				
Surrogate: Toluene-d8	*48.2*		"	*50.0*		*96.4*	*84-117*				
LCS Dup (BE30513-BSD1)								Prepared & Analyzed: 05/13/2013			
1,2-Tetrachloroethane	46		ug/L	50.0		93.0	72-132		0.799	30	
1,1,1-Trichloroethane	46		"	50.0		91.8	77-131		2.07	30	
1,1,2,2-Tetrachloroethane	43		"	50.0		85.8	68-129		5.62	30	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	51		"	50.0		103	75-143		2.57	30	
1,1,2-Trichloroethane	47		"	50.0		93.3	72-128		1.03	30	
1,1-Dichloroethane	48		"	50.0		96.2	78-133		2.02	30	
1,1-Dichloroethylene	51		"	50.0		102	71-142		1.75	30	
1,1-Dichloropropylene	45		"	50.0		90.5	77-124		3.90	30	
1,2,3-Trichlorobenzene	46		"	50.0		91.4	65-134		3.91	30	
1,2,3-Trichloropropane	43		"	50.0		85.4	65-127		0.988	30	
1,2,4-Trichlorobenzene	46		"	50.0		91.7	59-133		4.00	30	
1,2,4-Trimethylbenzene	44		"	50.0		87.5	68-128		5.37	30	
1,2-Dibromo-3-chloropropane	39		"	50.0		77.6	58-145		5.47	30	
1,2-Dibromoethane	45		"	50.0		91.0	73-128		4.09	30	
1,2-Dichlorobenzene	45		"	50.0		89.1	69-126		3.59	30	
1,2-Dichloroethane	43		"	50.0		86.3	78-131		5.96	30	
1,2-Dichloropropane	47		"	50.0		93.7	72-129		2.38	30	
1,3,5-Trimethylbenzene	44		"	50.0		88.5	67-125		5.24	30	
1,3-Dichlorobenzene	45		"	50.0		89.5	67-125		3.06	30	
1,3-Dichloropropane	46		"	50.0		92.4	73-126		2.08	30	
1,4-Dichlorobenzene	45		"	50.0		90.1	67-127		3.50	30	
1,4-Dioxane	74		"	50.0		148	10-265		3.40	30	
2,2-Dichloropropane	45		"	50.0		90.5	68-133		4.87	30	
2-Butanone	42		"	50.0		84.8	49-138		21.4	30	
2-Chlorotoluene	43		"	50.0		86.6	61-121		4.70	30	
4-Chlorotoluene	44		"	50.0		89.0	65-126		3.15	30	
Acetone	32		"	50.0		64.5	21-131		11.3	30	
Benzene	51		"	50.0		101	81-125		3.23	30	
Bromobenzene	43		"	50.0		86.9	65-125		5.36	30	
Bromochloromethane	47		"	50.0		94.4	78-127		3.25	30	
Bromodichloromethane	45		"	50.0		90.0	73-131		3.41	30	
Bromoform	46		"	50.0		91.2	66-137		2.87	30	
Bromomethane	46		"	50.0		92.2	55-144		6.58	30	

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Volatile Organic Compounds by EPA SW846-8260B - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BE30513 - EPA 5035A											
LCS Dup (BE30513-BSD1)							Prepared & Analyzed: 05/13/2013				
Carbon tetrachloride	47		ug/L	50.0		94.8	74-137		1.01	30	
Chlorobenzene	48		"	50.0		95.6	75-127		4.08	30	
Chloroethane	51		"	50.0		103	65-138		2.76	30	
Chloroform	47		"	50.0		93.9	82-128		1.61	30	
Chloromethane	46		"	50.0		91.3	51-138		2.00	30	
cis-1,2-Dichloroethylene	50		"	50.0		100	77-130		0.240	30	
cis-1,3-Dichloropropylene	48		"	50.0		97.0	68-123		1.50	30	
Dibromochloromethane	48		"	50.0		95.0	73-136		0.422	30	
Dibromomethane	46		"	50.0		91.6	75-131		1.37	30	
Dichlorodifluoromethane	34		"	50.0		67.4	10-183		8.30	30	
Ethyl Benzene	47		"	50.0		95.0	75-130		3.80	30	
Hexachlorobutadiene	43		"	50.0		86.6	59-130		3.07	30	
Isopropylbenzene	44		"	50.0		88.6	68-135		6.33	30	
Methyl tert-butyl ether (MTBE)	50		"	50.0		100	76-136		8.76	30	
Methylene chloride	50		"	50.0		99.8	55-143		5.34	30	
Naphthalene	47		"	50.0		94.2	65-140		1.62	30	
n-Butylbenzene	43		"	50.0		86.0	63-123		6.16	30	
n-Propylbenzene	44		"	50.0		88.6	65-127		5.26	30	
o-Xylene	46		"	50.0		92.0	71-123		5.10	30	
p- & m- Xylenes	94		"	100		94.2	72-127		4.38	30	
p-Isopropyltoluene	45		"	50.0		90.6	69-128		5.77	30	
sec-Butylbenzene	45		"	50.0		89.6	69-125		5.08	30	
Styrene	49		"	50.0		98.3	74-127		2.79	30	
tert-Butylbenzene	45		"	50.0		90.5	59-164		5.40	30	
Tetrachloroethylene	45		"	50.0		90.0	65-151		4.64	30	
Toluene	47		"	50.0		95.0	72-127		4.04	30	
trans-1,2-Dichloroethylene	48		"	50.0		95.4	73-137		2.42	30	
trans-1,3-Dichloropropylene	46		"	50.0		91.5	67-131		0.458	30	
Trichloroethylene	46		"	50.0		91.1	73-129		3.05	30	
Trichlorofluoromethane	50		"	50.0		100	69-136		2.71	30	
Vinyl Chloride	46		"	50.0		92.0	58-132		1.60	30	
Vinyl acetate	43		"	50.0		86.9	10-84	High Bias	9.38	30	
Surrogate: 1,2-Dichloroethane-d4	*43.9*		*"*	*50.0*		*87.7*	*73-130*				
Surrogate: p-Bromofluorobenzene	*48.2*		*"*	*50.0*		*96.3*	*72-127*				
Surrogate: Toluene-d8	*49.2*		*"*	*50.0*		*98.5*	*84-117*				

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Volatile Organic Compounds by EPA SW846-8260B - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BE30514 - EPA 5030B											
Blank (BE30514-BLK1)									Prepared & Analyzed: 05/13/2013		
1,1,1,2-Tetrachloroethane	ND	5.0	ug/L								
1,1,1-Trichloroethane	ND	5.0	"								
1,1,2,2-Tetrachloroethane	ND	5.0	"								
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	5.0	"								
1,1,2-Trichloroethane	ND	5.0	"								
1,1-Dichloroethane	ND	5.0	"								
1,1-Dichloroethylene	ND	5.0	"								
1,1-Dichloropropylene	ND	5.0	"								
1,2,3-Trichlorobenzene	ND	5.0	"								
1,2,3-Trichloropropane	ND	5.0	"								
1,2,4-Trichlorobenzene	ND	5.0	"								
1,2,4-Trimethylbenzene	ND	5.0	"								
1,2-Dibromo-3-chloropropane	ND	5.0	"								
1,2-Dibromoethane	ND	5.0	"								
1,2-Dichlorobenzene	ND	5.0	"								
1,2-Dichloroethane	ND	5.0	"								
1,2-Dichloropropane	ND	5.0	"								
1,3,5-Trimethylbenzene	ND	5.0	"								
' 3-Dichlorobenzene	ND	5.0	"								
Dichloropropane	ND	5.0	"								
,4-Dichlorobenzene	ND	5.0	"								
2,2-Dichloropropane	ND	5.0	"								
2-Butanone	ND	5.0	"								
2-Chlorotoluene	ND	5.0	"								
4-Chlorotoluene	ND	5.0	"								
Acetone	3.0	5.0	"								
Benzene	ND	5.0	"								
Bromobenzene	ND	5.0	"								
Bromochloromethane	ND	5.0	"								
Bromodichloromethane	ND	5.0	"								
Bromoform	ND	5.0	"								
Bromomethane	ND	5.0	"								
Carbon tetrachloride	ND	5.0	"								
Chlorobenzene	ND	5.0	"								
Chloroethane	ND	5.0	"								
Chloroform	ND	5.0	"								
Chloromethane	ND	5.0	"								
cis-1,2-Dichloroethylene	ND	5.0	"								
cis-1,3-Dichloropropylene	ND	5.0	"								
Dibromochloromethane	ND	5.0	"								
Dibromomethane	ND	5.0	"								
Dichlorodifluoromethane	ND	5.0	"								
Ethyl Benzene	ND	5.0	"								
Hexachlorobutadiene	ND	5.0	"								
Isopropylbenzene	ND	5.0	"								
Methyl tert-butyl ether (MTBE)	ND	5.0	"								
Methylene chloride	2.7	5.0	"								
Naphthalene	ND	5.0	"								
ıtylbenzene	ND	5.0	"								
.opylbenzene	ND	5.0	"								
o-Xylene	ND	5.0	"								

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Volatile Organic Compounds by EPA SW846-8260B - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BE30514 - EPA 5030B											
Blank (BE30514-BLK1)								Prepared & Analyzed: 05/13/2013			
p- & m- Xylenes	ND	10	ug/L								
p-Isopropyltoluene	ND	5.0	"								
sec-Butylbenzene	ND	5.0	"								
Styrene	ND	5.0	"								
tert-Butylbenzene	ND	5.0	"								
Tetrachloroethylene	ND	5.0	"								
Toluene	ND	5.0	"								
trans-1,2-Dichloroethylene	ND	5.0	"								
trans-1,3-Dichloropropylene	ND	5.0	"								
Trichloroethylene	ND	5.0	"								
Trichlorofluoromethane	ND	5.0	"								
Vinyl Chloride	ND	5.0	"								
Xylenes, Total	ND	15	"								
Vinyl acetate	ND	5.0	"								
Surrogate: 1,2-Dichloroethane-d4	*48.6*		"	*50.0*		*97.2*	*72.6-129*				
Surrogate: p-Bromofluorobenzene	*51.9*		"	*50.0*		*104*	*63.5-145*				
Surrogate: Toluene-d8	*50.0*		"	*50.0*		*100*	*81.2-127*				
LCS (BE30514-BS1)								Prepared & Analyzed: 05/13/2013			
1,1,1,2-Tetrachloroethane	47		ug/L	50.0		93.3	82.3-130				
1,1,1-Trichloroethane	46		"	50.0		92.5	75.6-137				
1,1,2,2-Tetrachloroethane	43		"	50.0		86.7	71.3-131				
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	43		"	50.0		86.3	71.1-129				
1,1,2-Trichloroethane	42		"	50.0		84.6	74.5-129				
1,1-Dichloroethane	45		"	50.0		89.7	79.6-132				
1,1-Dichloroethylene	40		"	50.0		79.9	80.2-146	Low Bias			
1,1-Dichloropropylene	44		"	50.0		88.1	75-136				
1,2,3-Trichlorobenzene	47		"	50.0		93.7	66.1-136				
1,2,3-Trichloropropane	44		"	50.0		87.8	63-131				
1,2,4-Trichlorobenzene	48		"	50.0		95.2	70.6-136				
1,2,4-Trimethylbenzene	44		"	50.0		87.8	75.3-135				
1,2-Dibromo-3-chloropropane	42		"	50.0		83.1	58.9-140				
1,2-Dibromoethane	46		"	50.0		91.4	79-130				
1,2-Dichlorobenzene	44		"	50.0		88.7	76.1-122				
1,2-Dichloroethane	44		"	50.0		89.0	74.6-132				
1,2-Dichloropropane	43		"	50.0		86.4	76.9-129				
1,3,5-Trimethylbenzene	45		"	50.0		90.5	70.6-127				
1,3-Dichlorobenzene	46		"	50.0		92.2	77-124				
1,3-Dichloropropane	44		"	50.0		88.1	75.8-126				
1,4-Dichlorobenzene	46		"	50.0		91.7	76.6-125				
2,2-Dichloropropane	45		"	50.0		90.9	69-133				
2-Butanone	44		"	50.0		88.9	70-130				
2-Chlorotoluene	44		"	50.0		87.6	66.3-119				
4-Chlorotoluene	48		"	50.0		95.2	69.2-127				
Acetone	26		"	50.0		52.4	70-130	Low Bias			
Benzene	46		"	50.0		92.7	76.2-129				
Bromobenzene	50		"	50.0		99.1	71.3-123				
Bromochloromethane	47		"	50.0		93.9	70.8-137				
Bromodichloromethane	44		"	50.0		88.8	79.7-134				
Bromoform	45		"	50.0		90.4	70.5-141				
Bromomethane	38		"	50.0		75.8	43.9-147				
Carbon tetrachloride	47		"	50.0		94.4	78.1-138				

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Volatile Organic Compounds by EPA SW846-8260B - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BE30514 - EPA 5030B											
LCS (BE30514-BS1)							Prepared & Analyzed: 05/13/2013				
Chlorobenzene	47		ug/L	50.0		93.9	80.4-125				
Chloroethane	43		"	50.0		86.4	55.8-140				
Chloroform	46		"	50.0		91.8	76.6-133				
Chloromethane	45		"	50.0		90.1	48.8-115				
cis-1,2-Dichloroethylene	44		"	50.0		88.5	75.1-128				
cis-1,3-Dichloropropylene	46		"	50.0		91.8	74.5-128				
Dibromochloromethane	46		"	50.0		91.5	79.8-134				
Dibromomethane	44		"	50.0		88.4	79-130				
Dichlorodifluoromethane	46		"	50.0		91.1	47.1-101				
Ethyl Benzene	47		"	50.0		94.3	80.8-128				
Hexachlorobutadiene	51		"	50.0		101	64.8-128				
Isopropylbenzene	46		"	50.0		92.4	75.5-135				
Methyl tert-butyl ether (MTBE)	46		"	50.0		92.7	65.1-140				
Methylene chloride	39		"	50.0		78.9	61.3-120				
Naphthalene	50		"	50.0		100	62.3-148				
n-Butylbenzene	43		"	50.0		85.8	67.2-123				
n-Propylbenzene	46		"	50.0		91.7	70.5-127				
o-Xylene	46		"	50.0		91.1	75.9-122				
& m- Xylenes	94		"	100		94.5	77.7-127				
opropyltoluene	48		"	50.0		95.9	75.6-129				
c-Butylbenzene	47		"	50.0		93.1	71.5-125				
Styrene	48		"	50.0		96.5	77.8-123				
tert-Butylbenzene	45		"	50.0		89.8	75.9-151				
Tetrachloroethylene	45		"	50.0		89.8	63.6-167				
Toluene	46		"	50.0		91.6	77-123				
trans-1,2-Dichloroethylene	43		"	50.0		85.6	76.3-139				
trans-1,3-Dichloropropylene	44		"	50.0		88.3	72.5-137				
Trichloroethylene	42		"	50.0		84.4	77.9-130				
Trichlorofluoromethane	46		"	50.0		92.8	57.4-133				
Vinyl Chloride	38		"	50.0		76.7	54.9-124				
Vinyl acetate	41		"	50.0		82.1	70-130				
Surrogate: 1,2-Dichloroethane-d4	*51.3*		*"*	*50.0*		*103*	*72.6-129*				
Surrogate: p-Bromofluorobenzene	*49.7*		*"*	*50.0*		*99.5*	*63.5-145*				
Surrogate: Toluene-d8	*48.7*		*"*	*50.0*		*97.5*	*81.2-127*				

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Volatile Organic Compounds by EPA SW846-8260B - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BE30514 - EPA 5030B											
LCS Dup (BE30514-BSD1)							Prepared & Analyzed: 05/13/2013				
1,1,1,2-Tetrachloroethane	49		ug/L	50.0		98.5	82.3-130		5.38	21.1	
1,1,1-Trichloroethane	46		"	50.0		92.4	75.6-137		0.130	19.7	
1,1,2,2-Tetrachloroethane	44		"	50.0		87.7	71.3-131		1.19	20.8	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	42		"	50.0		84.8	71.1-129		1.80	21.7	
1,1,2-Trichloroethane	43		"	50.0		86.0	74.5-129		1.69	20.3	
1,1-Dichloroethane	45		"	50.0		89.9	79.6-132		0.245	20.6	
1,1-Dichloroethylene	39		"	50.0		78.8	80.2-146	Low Bias	1.41	20	
1,1-Dichloropropylene	43		"	50.0		86.7	75-136		1.58	19.3	
1,2,3-Trichlorobenzene	50		"	50.0		99.3	66.1-136		5.81	21.6	
1,2,3-Trichloropropane	46		"	50.0		92.4	63-131		5.17	23.9	
1,2,4-Trichlorobenzene	50		"	50.0		99.6	70.6-136		4.46	21.7	
1,2,4-Trimethylbenzene	47		"	50.0		93.0	75.3-135		5.73	18.8	
1,2-Dibromo-3-chloropropane	42		"	50.0		84.8	58.9-140		2.00	27.7	
1,2-Dibromoethane	46		"	50.0		91.4	79-130		0.0438	23	
1,2-Dichlorobenzene	47		"	50.0		94.9	76.1-122		6.69	19.8	
1,2-Dichloroethane	43		"	50.0		86.6	74.6-132		2.76	20.2	
1,2-Dichloropropane	46		"	50.0		91.0	76.9-129		5.28	20.7	
1,3,5-Trimethylbenzene	49		"	50.0		98.5	70.6-127		8.42	18.9	
1,3-Dichlorobenzene	49		"	50.0		98.4	77-124		6.59	19.2	
1,3-Dichloropropane	44		"	50.0		88.2	75.8-126		0.159	22.1	
1,4-Dichlorobenzene	48		"	50.0		95.4	76.6-125		3.98	18.6	
2,2-Dichloropropane	45		"	50.0		90.0	69-133		1.04	19.8	
2-Butanone	42		"	50.0		84.3	70-130		5.34	30	
2-Chlorotoluene	47		"	50.0		93.8	66.3-119		6.84	21.6	
4-Chlorotoluene	51		"	50.0		102	69.2-127		7.13	19	
Acetone	26		"	50.0		52.8	70-130	Low Bias	0.799	30	
Benzene	46		"	50.0		92.2	76.2-129		0.563	19	
Bromobenzene	53		"	50.0		106	71.3-123		6.99	20.3	
Bromochloromethane	46		"	50.0		91.0	70.8-137		3.11	23.9	
Bromodichloromethane	47		"	50.0		93.3	79.7-134		4.88	21	
Bromoform	47		"	50.0		93.0	70.5-141		2.83	21.8	
Bromomethane	42		"	50.0		83.0	43.9-147		9.09	28.4	
Carbon tetrachloride	48		"	50.0		95.9	78.1-138		1.56	20.1	
Chlorobenzene	50		"	50.0		99.2	80.4-125		5.47	19.9	
Chloroethane	43		"	50.0		86.0	55.8-140		0.511	23.3	
Chloroform	46		"	50.0		91.2	76.6-133		0.590	20.3	
Chloromethane	44		"	50.0		87.3	48.8-115		3.11	24.5	
cis-1,2-Dichloroethylene	44		"	50.0		87.4	75.1-128		1.18	20.5	
cis-1,3-Dichloropropylene	48		"	50.0		95.4	74.5-128		3.91	19.9	
Dibromochloromethane	48		"	50.0		95.6	79.8-134		4.34	21.3	
Dibromomethane	45		"	50.0		89.7	79-130		1.48	22.4	
Dichlorodifluoromethane	44		"	50.0		87.1	47.1-101		4.49	23.9	
Ethyl Benzene	50		"	50.0		101	80.8-128		6.49	19.2	
Hexachlorobutadiene	52		"	50.0		105	64.8-128		3.38	20.6	
Isopropylbenzene	50		"	50.0		101	75.5-135		8.87	20	
Methyl tert-butyl ether (MTBE)	45		"	50.0		90.3	65.1-140		2.65	23.6	
Methylene chloride	41		"	50.0		81.9	61.3-120		3.83	20.4	
Naphthalene	51		"	50.0		102	62.3-148		1.54	27.1	
n-Butylbenzene	45		"	50.0		90.7	67.2-123		5.48	19.1	
n-Propylbenzene	49		"	50.0		97.8	70.5-127		6.46	23.4	
o-Xylene	47		"	50.0		94.4	75.9-122		3.54	19.3	

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Volatile Organic Compounds by EPA SW846-8260B - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BE30514 - EPA 5030B											
LCS Dup (BE30514-BSD1)							Prepared & Analyzed: 05/13/2013				
p- & m- Xylenes	100		ug/L	100		99.9	77.7-127		5.54	18.6	
p-Isopropyltoluene	51		"	50.0		102	75.6-129		6.13	19.1	
sec-Butylbenzene	50		"	50.0		99.3	71.5-125		6.49	18.9	
Styrene	50		"	50.0		100	77.8-123		3.70	20.9	
tert-Butylbenzene	50		"	50.0		99.7	75.9-151		10.5	20.9	
Tetrachloroethylene	49		"	50.0		97.1	63.6-167		7.79	27.7	
Toluene	48		"	50.0		95.1	77-123		3.75	18.7	
trans-1,2-Dichloroethylene	43		"	50.0		86.2	76.3-139		0.722	19.5	
trans-1,3-Dichloropropylene	46		"	50.0		91.7	72.5-137		3.76	19.3	
Trichloroethylene	45		"	50.0		89.4	77.9-130		5.77	20.5	
Trichlorofluoromethane	46		"	50.0		92.3	57.4-133		0.497	21.4	
Vinyl Chloride	38		"	50.0		76.1	54.9-124		0.811	22.3	
Vinyl acetate	38		"	50.0		76.9	70-130		6.44	30	
Surrogate: 1,2-Dichloroethane-d4	*46.6*		"	*50.0*		*93.2*	*72.6-129*				
Surrogate: p-Bromofluorobenzene	*50.5*		"	*50.0*		*101*	*63.5-145*				
Surrogate: Toluene-d8	*48.8*		"	*50.0*		*97.6*	*81.2-127*				

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Semivolatile Organic Compounds by EPA Method 8270C - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BE30442 - EPA 3550B											
Blank (BE30442-BLK1)									Prepared & Analyzed: 05/10/2013		
Acenaphthene	ND	167	ug/kg wet								
Acenaphthylene	ND	167	"								
Aniline	ND	167	"								
Anthracene	ND	167	"								
Benzo(a)anthracene	ND	167	"								
Benzo(a)pyrene	ND	167	"								
Benzo(b)fluoranthene	ND	167	"								
Benzo(g,h,i)perylene	ND	167	"								
Benzyl alcohol	ND	167	"								
Benzo(k)fluoranthene	ND	167	"								
Benzyl butyl phthalate	ND	167	"								
4-Bromophenyl phenyl ether	ND	167	"								
4-Chloro-3-methylphenol	ND	167	"								
4-Chloroaniline	ND	167	"								
Bis(2-chloroethoxy)methane	ND	167	"								
Bis(2-chloroethyl)ether	ND	167	"								
Bis(2-chloroisopropyl)ether	ND	167	"								
Bis(2-ethylhexyl)phthalate	ND	167	"								
2-Chloronaphthalene	ND	167	"								
2-Chlorophenol	ND	167	"								
4-Chlorophenyl phenyl ether	ND	167	"								
Chrysene	ND	167	"								
Dibenzo(a,h)anthracene	ND	167	"								
Dibenzofuran	ND	167	"								
Di-n-butyl phthalate	ND	167	"								
1,2-Dichlorobenzene	ND	167	"								
1,4-Dichlorobenzene	ND	167	"								
1,3-Dichlorobenzene	ND	167	"								
3,3'-Dichlorobenzidine	ND	167	"								
2,4-Dichlorophenol	ND	167	"								
Diethyl phthalate	ND	167	"								
2,4-Dimethylphenol	ND	167	"								
Dimethyl phthalate	ND	167	"								
2-Nitroaniline	ND	167	"								
4,6-Dinitro-2-methylphenol	ND	333	"								
2,4-Dinitrophenol	ND	333	"								
2,6-Dinitrotoluene	ND	167	"								
2,4-Dinitrotoluene	ND	167	"								
Di-n-octyl phthalate	ND	167	"								
Fluoranthene	ND	167	"								
Fluorene	ND	167	"								
Hexachlorobenzene	ND	167	"								
Hexachlorobutadiene	ND	167	"								
Hexachlorocyclopentadiene	ND	167	"								
Hexachloroethane	ND	167	"								
Indeno(1,2,3-cd)pyrene	ND	167	"								
Isophorone	ND	167	"								
2-Methylnaphthalene	ND	167	"								
2-Methylphenol	ND	167	"								
3- & 4-Methylphenols	ND	167	"								
Naphthalene	ND	167	"								

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Semivolatile Organic Compounds by EPA Method 8270C - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BE30442 - EPA 3550B											
Blank (BE30442-BLK1)								Prepared & Analyzed: 05/10/2013			
3-Nitroaniline	ND	167	ug/kg wet								
4-Nitroaniline	ND	167	"								
Nitrobenzene	ND	167	"								
4-Nitrophenol	ND	167	"								
2-Nitrophenol	ND	167	"								
N-nitroso-di-n-propylamine	ND	167	"								
N-Nitrosodimethylamine	ND	167	"								
N-Nitrosodiphenylamine	ND	167	"								
Pentachlorophenol	ND	167	"								
Phenanthrene	ND	167	"								
Phenol	ND	167	"								
Pyrene	ND	167	"								
Pyridine	ND	167	"								
1,2,4-Trichlorobenzene	ND	167	"								
2,4,5-Trichlorophenol	ND	167	"								
2,4,6-Trichlorophenol	ND	167	"								
Surrogate: 2,4,6-Tribromophenol	*2050*		"	*2500*		*82.1*	*15-110*				
Surrogate: 2-Fluorobiphenyl	*1220*		"	*1670*		*73.2*	*30-130*				
rogate: 2-Fluorophenol	*1770*		"	*2500*		*70.7*	*15-110*				
rogate: Nitrobenzene-d5	*1580*		"	*1670*		*94.9*	*30-130*				
Surrogate: Phenol-d5	*1860*		"	*2500*		*74.2*	*15-110*				
Surrogate: Terphenyl-d14	*1490*		"	*1670*		*89.3*	*30-130*				
LCS (BE30442-BS1)								Prepared & Analyzed: 05/10/2013			
Acenaphthene	1250	167	ug/kg wet	1670		75.2	31.1-109				
Acenaphthylene	1270	167	"	1670		76.0	31.1-106				
Aniline	1010	167	"	1670		60.6	5.07-149				
Anthracene	1390	167	"	1670		83.4	31.5-107				
Benzo(a)anthracene	1560	167	"	1670		93.6	31.5-115				
Benzo(a)pyrene	1340	167	"	1670		80.7	29.1-138				
Benzo(b)fluoranthene	1240	167	"	1670		74.6	14.9-131				
Benzo(g,h,i)perylene	1060	167	"	1670		63.7	6.56-121				
Benzyl alcohol	1050	167	"	1670		63.1	25.4-119				
Benzo(k)fluoranthene	1100	167	"	1670		66.3	29.1-121				
Benzyl butyl phthalate	1700	167	"	1670		102	31.3-112				
4-Bromophenyl phenyl ether	1310	167	"	1670		78.4	25.2-113				
4-Chloro-3-methylphenol	1350	167	"	1670		81.2	29.5-124				
4-Chloroaniline	1570	167	"	1670		94.2	10-177				
Bis(2-chloroethoxy)methane	1270	167	"	1670		76.3	27.9-111				
Bis(2-chloroethyl)ether	1240	167	"	1670		74.6	18-122				
Bis(2-chloroisopropyl)ether	1280	167	"	1670		76.7	9.62-123				
Bis(2-ethylhexyl)phthalate	1960	167	"	1670		118	25-105	High Bias			
2-Chloronaphthalene	1100	167	"	1670		66.3	31.7-108				
2-Chlorophenol	1060	167	"	1670		63.6	20.3-125				
4-Chlorophenyl phenyl ether	1100	167	"	1670		66.1	23.6-110				
Chrysene	1190	167	"	1670		71.4	27.4-117				
Dibenzo(a,h)anthracene	1150	167	"	1670		68.8	14.6-119				
Dibenzofuran	1190	167	"	1670		71.4	30.2-108				
ı-butyl phthalate	1640	167	"	1670		98.6	33.5-100				
-Dichlorobenzene	1130	167	"	1670		67.7	22.8-114				
1,4-Dichlorobenzene	1100	167	"	1670		66.3	19.8-121				

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Semivolatile Organic Compounds by EPA Method 8270C - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BE30442 - EPA 3550B											
LCS (BE30442-BS1)							Prepared & Analyzed: 05/10/2013				
1,3-Dichlorobenzene	1110	167	ug/kg wet	1670		66.8	20.6-119				
3,3'-Dichlorobenzidine	1900	167	"	1670		114	10-180				
2,4-Dichlorophenol	1080	167	"	1670		65.0	23.3-125				
Diethyl phthalate	1370	167	"	1670		82.3	29.7-111				
2,4-Dimethylphenol	1190	167	"	1670		71.2	29.8-115				
Dimethyl phthalate	1230	167	"	1670		74.0	27-118				
2-Nitroaniline	1240	167	"	1670		74.6	40-140				
4,6-Dinitro-2-methylphenol	645	333	"	1670		38.7	10-122				
2,4-Dinitrophenol	409	333	"	1670		24.5	10-151				
2,6-Dinitrotoluene	1290	167	"	1670		77.3	26.1-119				
2,4-Dinitrotoluene	1300	167	"	1670		77.9	21.4-126				
Di-n-octyl phthalate	1460	167	"	1670		87.5	19-129				
Fluoranthene	1410	167	"	1670		84.3	31.3-110				
Fluorene	1300	167	"	1670		78.0	29.9-108				
Hexachlorobenzene	1800	167	"	1670		108	31.7-102	High Bias			
Hexachlorobutadiene	1190	167	"	1670		71.5	10.1-134				
Hexachlorocyclopentadiene	ND	167	"	1670			10-122	Low Bias			
Hexachloroethane	1240	167	"	1670		74.6	20.2-114				
Indeno(1,2,3-cd)pyrene	1180	167	"	1670		70.7	12.6-120				
Isophorone	1380	167	"	1670		82.6	27.2-113				
2-Methylnaphthalene	1330	167	"	1670		79.9	17.4-119				
2-Methylphenol	1240	167	"	1670		74.4	23.6-125				
3- & 4-Methylphenols	1030	167	"	1670		61.7	21.3-115				
Naphthalene	1230	167	"	1670		73.6	25.2-111				
3-Nitroaniline	1600	167	"	1670		96.0	9.73-147				
4-Nitroaniline	1390	167	"	1670		83.3	6.42-169				
Nitrobenzene	1210	167	"	1670		72.6	21.8-118				
4-Nitrophenol	960	167	"	1670		57.6	10-136				
2-Nitrophenol	1180	167	"	1670		70.8	20.6-119				
N-nitroso-di-n-propylamine	1350	167	"	1670		81.1	25.3-118				
N-Nitrosodimethylamine	1390	167	"	1670		83.4	10-142				
N-Nitrosodiphenylamine	1490	167	"	1670		89.5	35.8-132				
Pentachlorophenol	892	167	"	1670		53.5	3.68-146				
Phenanthrene	1360	167	"	1670		81.9	31.2-105				
Phenol	1210	167	"	1670		72.4	23.2-117				
Pyrene	1460	167	"	1670		87.8	26.3-124				
Pyridine	511	167	"	1670		30.7	10-122				
1,2,4-Trichlorobenzene	1080	167	"	1670		64.7	19.3-128				
2,4,5-Trichlorophenol	1050	167	"	1670		63.0	19.5-131				
2,4,6-Trichlorophenol	1230	167	"	1670		74.1	24.2-123				
Surrogate: 2,4,6-Tribromophenol	*2530*		*"*	*2500*		*101*	*15-110*				
Surrogate: 2-Fluorobiphenyl	*1310*		*"*	*1670*		*78.6*	*30-130*				
Surrogate: 2-Fluorophenol	*1820*		*"*	*2500*		*73.0*	*15-110*				
Surrogate: Nitrobenzene-d5	*1250*		*"*	*1670*		*75.1*	*30-130*				
Surrogate: Phenol-d5	*1620*		*"*	*2500*		*64.6*	*15-110*				
Surrogate: Terphenyl-d14	*1640*		*"*	*1670*		*98.6*	*30-130*				

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Semivolatile Organic Compounds by EPA Method 8270C - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BE30442 - EPA 3550B											
LCS Dup (BE30442-BSD1)							Prepared & Analyzed: 05/10/2013				
Acenaphthene	1620	167	ug/kg wet	1670		97.1	31.1-109		25.5	30	
Acenaphthylene	1570	167	"	1670		94.1	31.1-106		21.3	30	
Aniline	1240	167	"	1670		74.6	5.07-149		20.7	30	
Anthracene	1680	167	"	1670		101	31.5-107		19.1	30	
Benzo(a)anthracene	1780	167	"	1670		107	31.5-115		13.0	30	
Benzo(a)pyrene	1430	167	"	1670		85.6	29.1-138		5.90	30	
Benzo(b)fluoranthene	2960	167	"	1670		178	14.9-131	High Bias	81.8	30	Non-dir.
Benzo(g,h,i)perylene	1210	167	"	1670		72.4	6.56-121		12.8	30	
Benzyl alcohol	1410	167	"	1670		84.4	25.4-119		28.9	30	
Benzo(k)fluoranthene	2630	167	"	1670		158	29.1-121	High Bias	81.8	30	Non-dir.
Benzyl butyl phthalate	1850	167	"	1670		111	31.3-112		8.46	30	
4-Bromophenyl phenyl ether	1600	167	"	1670		96.2	25.2-113		20.4	30	
4-Chloro-3-methylphenol	1660	167	"	1670		99.8	29.5-124		20.5	30	
4-Chloroaniline	2000	167	"	1670		120	10-177		24.2	30	
Bis(2-chloroethoxy)methane	1550	167	"	1670		93.1	27.9-111		19.8	30	
Bis(2-chloroethyl)ether	1540	167	"	1670		92.4	18-122		21.3	30	
Bis(2-chloroisopropyl)ether	1660	167	"	1670		99.8	9.62-123		26.1	30	
Bis(2-ethylhexyl)phthalate	2230	167	"	1670		134	25-105	High Bias	12.8	30	
2-Chloronaphthalene	1420	167	"	1670		85.0	31.7-108		24.7	30	
2-Chlorophenol	1420	167	"	1670		85.5	20.3-125		29.4	30	
4-Chlorophenyl phenyl ether	1440	167	"	1670		86.3	23.6-110		26.5	30	
Chrysene	1320	167	"	1670		79.3	27.4-117		10.5	30	
Dibenzo(a,h)anthracene	1300	167	"	1670		77.9	14.6-119		12.3	30	
Dibenzofuran	1550	167	"	1670		92.8	30.2-108		26.0	30	
Di-n-butyl phthalate	1890	167	"	1670		113	33.5-100	High Bias	13.9	30	
1,2-Dichlorobenzene	1530	167	"	1670		91.5	22.8-114		29.9	30	
1,4-Dichlorobenzene	1370	167	"	1670		82.3	19.8-121		21.6	30	
1,3-Dichlorobenzene	1370	167	"	1670		82.4	20.6-119		20.8	30	
3,3'-Dichlorobenzidine	2230	167	"	1670		134	10-180		15.8	30	
2,4-Dichlorophenol	1490	167	"	1670		89.6	23.3-125		31.8	30	Non-dir.
Diethyl phthalate	1590	167	"	1670		95.7	29.7-111		15.0	30	
2,4-Dimethylphenol	1620	167	"	1670		96.9	29.8-115		30.6	30	Non-dir.
Dimethyl phthalate	1430	167	"	1670		85.9	27-118		14.8	30	
2-Nitroaniline	1460	167	"	1670		87.6	40-140		16.0	30	
4,6-Dinitro-2-methylphenol	1170	333	"	1670		70.3	10-122		57.9	30	Non-dir.
2,4-Dinitrophenol	877	333	"	1670		52.6	10-151		72.9	30	Non-dir.
2,6-Dinitrotoluene	1620	167	"	1670		97.0	26.1-119		22.6	30	
2,4-Dinitrotoluene	1450	167	"	1670		86.9	21.4-126		10.9	30	
Di-n-octyl phthalate	1550	167	"	1670		92.8	19-129		5.88	30	
Fluoranthene	1610	167	"	1670		96.7	31.3-110		13.7	30	
Fluorene	1640	167	"	1670		98.5	29.9-108		23.2	30	
Hexachlorobenzene	2050	167	"	1670		123	31.7-102	High Bias	13.2	30	
Hexachlorobutadiene	1510	167	"	1670		90.8	10.1-134		23.8	30	
Hexachlorocyclopentadiene	484	167	"	1670		29.0	10-122		124	30	Non-dir.
Hexachloroethane	1670	167	"	1670		100	20.2-114		29.2	30	
Indeno(1,2,3-cd)pyrene	1330	167	"	1670		79.7	12.6-120		12.0	30	
Isophorone	1680	167	"	1670		101	27.2-113		19.6	30	
2-Methylnaphthalene	1760	167	"	1670		105	17.4-119		27.4	30	
2-Methylphenol	1680	167	"	1670		101	23.6-125		30.3	30	Non-dir.
3 & 4-Methylphenols	1400	167	"	1670		83.8	21.3-115		30.3	30	Non-dir.
Naphthalene	1520	167	"	1670		91.2	25.2-111		21.3	30	

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Semivolatile Organic Compounds by EPA Method 8270C - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BE30442 - EPA 3550B											
LCS Dup (BE30442-BSD1)								Prepared & Analyzed: 05/10/2013			
3-Nitroaniline	2020	167	ug/kg wet	1670		121	9.73-147		23.0	30	
4-Nitroaniline	1620	167	"	1670		97.3	6.42-169		15.5	30	
Nitrobenzene	1550	167	"	1670		93.1	21.8-118		24.7	30	
4-Nitrophenol	1240	167	"	1670		74.1	10-136		25.1	30	
2-Nitrophenol	1410	167	"	1670		84.8	20.6-119		18.0	30	
N-nitroso-di-n-propylamine	1800	167	"	1670		108	25.3-118		28.3	30	
N-Nitrosodimethylamine	1690	167	"	1670		101	10-142		19.3	30	
N-Nitrosodiphenylamine	1750	167	"	1670		105	35.8-132		15.8	30	
Pentachlorophenol	1060	167	"	1670		63.6	3.68-146		17.3	30	
Phenanthrene	1740	167	"	1670		104	31.2-105		23.9	30	
Phenol	1400	167	"	1670		84.2	23.2-117		15.1	30	
Pyrene	1690	167	"	1670		101	26.3-124		14.2	30	
Pyridine	451	167	"	1670		27.1	10-122		12.5	30	
1,2,4-Trichlorobenzene	1320	167	"	1670		79.1	19.3-128		20.0	30	
2,4,5-Trichlorophenol	1320	167	"	1670		79.2	19.5-131		22.8	30	
2,4,6-Trichlorophenol	1530	167	"	1670		91.8	24.2-123		21.4	30	
Surrogate: 2,4,6-Tribromophenol	*2850*		*"*	*2500*		*114*	*15-110*				
Surrogate: 2-Fluorobiphenyl	*1590*		*"*	*1670*		*95.2*	*30-130*				
Surrogate: 2-Fluorophenol	*2270*		*"*	*2500*		*90.8*	*15-110*				
Surrogate: Nitrobenzene-d5	*1480*		*"*	*1670*		*89.0*	*30-130*				
Surrogate: Phenol-d5	*2220*		*"*	*2500*		*88.7*	*15-110*				
Surrogate: Terphenyl-d14	*1750*		*"*	*1670*		*105*	*30-130*				
Batch BE30445 - EPA 3510C											
Blank (BE30445-BLK1)								Prepared & Analyzed: 05/10/2013			
Acenaphthene	ND	5.00	ug/L								
Acenaphthylene	ND	5.00	"								
Aniline	ND	5.00	"								
Anthracene	ND	5.00	"								
Benzo(a)anthracene	ND	5.00	"								
Benzo(a)pyrene	ND	5.00	"								
Benzo(b)fluoranthene	ND	5.00	"								
Benzyl alcohol	ND	5.00	"								
Benzo(g,h,i)perylene	ND	5.00	"								
Benzo(k)fluoranthene	ND	5.00	"								
Benzyl butyl phthalate	ND	5.00	"								
4-Bromophenyl phenyl ether	ND	5.00	"								
4-Chloro-3-methylphenol	ND	5.00	"								
4-Chloroaniline	ND	5.00	"								
Bis(2-chloroethoxy)methane	ND	5.00	"								
Bis(2-chloroethyl)ether	ND	5.00	"								
Bis(2-chloroisopropyl)ether	ND	5.00	"								
Bis(2-ethylhexyl)phthalate	ND	5.00	"								
2-Chloronaphthalene	ND	5.00	"								
2-Chlorophenol	ND	5.00	"								
4-Chlorophenyl phenyl ether	ND	5.00	"								
Chrysene	ND	5.00	"								
Dibenzo(a,h)anthracene	ND	5.00	"								
Dibenzofuran	ND	5.00	"								
Di-n-butyl phthalate	ND	5.00	"								
1,3-Dichlorobenzene	ND	5.00	"								

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Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BE30445 - EPA 3510C											
Blank (BE30445-BLK1)									Prepared & Analyzed: 05/10/2013		
1,2-Dichlorobenzene	ND	5.00	ug/L								
1,4-Dichlorobenzene	ND	5.00	"								
3,3'-Dichlorobenzidine	ND	5.00	"								
2,4-Dichlorophenol	ND	5.00	"								
Diethyl phthalate	ND	5.00	"								
2,4-Dimethylphenol	ND	5.00	"								
Dimethyl phthalate	ND	5.00	"								
4,6-Dinitro-2-methylphenol	ND	10.0	"								
2,4-Dinitrophenol	ND	10.0	"								
2,6-Dinitrotoluene	ND	5.00	"								
2,4-Dinitrotoluene	ND	5.00	"								
Di-n-octyl phthalate	ND	5.00	"								
Fluoranthene	ND	5.00	"								
Fluorene	ND	5.00	"								
Hexachlorobenzene	ND	5.00	"								
Hexachlorobutadiene	ND	5.00	"								
Hexachlorocyclopentadiene	ND	5.00	"								
Hexachloroethane	ND	5.00	"								
·-leno(1,2,3-cd)pyrene	ND	5.00	"								
horone	ND	5.00	"								
-Methylnaphthalene	ND	5.00	"								
3- & 4-Methylphenols	ND	5.00	"								
2-Methylphenol	ND	5.00	"								
Naphthalene	ND	5.00	"								
4-Nitroaniline	ND	5.00	"								
3-Nitroaniline	ND	5.00	"								
2-Nitroaniline	ND	5.00	"								
Nitrobenzene	ND	5.00	"								
2-Nitrophenol	ND	5.00	"								
4-Nitrophenol	ND	5.00	"								
N-nitroso-di-n-propylamine	ND	5.00	"								
N-Nitrosodimethylamine	ND	5.00	"								
N-Nitrosodiphenylamine	ND	5.00	"								
Pentachlorophenol	ND	5.00	"								
Phenanthrene	ND	5.00	"								
Phenol	ND	5.00	"								
Pyrene	ND	5.00	"								
Pyridine	ND	5.00	"								
1,2,4-Trichlorobenzene	ND	5.00	"								
2,4,6-Trichlorophenol	ND	5.00	"								
2,4,5-Trichlorophenol	ND	5.00	"								
Surrogate: 2,4,6-Tribromophenol	*55.2*		"	*75.0*		*73.7*	*15-110*				
Surrogate: 2-Fluorobiphenyl	*28.2*		"	*50.1*		*56.3*	*30-130*				
Surrogate: 2-Fluorophenol	*19.4*		"	*75.0*		*25.9*	*15-110*				
Surrogate: Nitrobenzene-d5	*15.2*		"	*50.0*		*30.5*	*30-130*				
Surrogate: Phenol-d5	*11.9*		"	*75.1*		*15.8*	*10-110*				
Surrogate: Terphenyl-d14	*41.6*		"	*50.0*		*83.2*	*30-130*				

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Semivolatile Organic Compounds by EPA Method 8270C - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BE30445 - EPA 3510C											
LCS (BE30445-BS1)							Prepared & Analyzed: 05/10/2013				
Acenaphthene	35.9	5.00	ug/L	50.0		71.7	30-140				
Acenaphthylene	33.6	5.00	"	50.0		67.2	30-140				
Aniline	20.2	5.00	"	50.0		40.3	30-140				
Anthracene	35.4	5.00	"	50.0		70.7	30-140				
Benzo(a)anthracene	36.9	5.00	"	50.0		73.8	30-140				
Benzo(a)pyrene	43.0	5.00	"	50.0		86.1	30-140				
Benzo(b)fluoranthene	45.1	5.00	"	50.0		90.3	30-140				
Benzyl alcohol	21.7	5.00	"	50.0		43.4	30-130				
Benzo(g,h,i)perylene	23.3	5.00	"	50.0		46.5	30-140				
Benzo(k)fluoranthene	44.3	5.00	"	50.0		88.6	30-140				
Benzyl butyl phthalate	42.5	5.00	"	50.0		85.1	30-140				
4-Bromophenyl phenyl ether	35.3	5.00	"	50.0		70.6	30-140				
4-Chloro-3-methylphenol	28.5	5.00	"	50.0		57.0	30-130				
4-Chloroaniline	42.2	5.00	"	50.0		84.3	30-140				
Bis(2-chloroethoxy)methane	32.8	5.00	"	50.0		65.6	30-140				
Bis(2-chloroethyl)ether	31.0	5.00	"	50.0		62.1	30-140				
Bis(2-chloroisopropyl)ether	55.8	5.00	"	50.0		112	30-140				
Bis(2-ethylhexyl)phthalate	39.5	5.00	"	50.0		79.0	30-140				
2-Chloronaphthalene	34.6	5.00	"	50.0		69.1	30-140				
2-Chlorophenol	29.6	5.00	"	50.0		59.2	30-130				
4-Chlorophenyl phenyl ether	34.1	5.00	"	50.0		68.2	30-140				
Chrysene	36.4	5.00	"	50.0		72.8	30-140				
Dibenzo(a,h)anthracene	26.2	5.00	"	50.0		52.4	30-140				
Dibenzofuran	36.1	5.00	"	50.0		72.1	30-140				
Di-n-butyl phthalate	38.0	5.00	"	50.0		76.0	30-140				
1,3-Dichlorobenzene	28.4	5.00	"	50.0		56.8	30-140				
1,2-Dichlorobenzene	30.5	5.00	"	50.0		61.0	30-140				
1,4-Dichlorobenzene	32.8	5.00	"	50.0		65.5	30-140				
3,3'-Dichlorobenzidine	36.3	5.00	"	50.0		72.7	30-140				
2,4-Dichlorophenol	34.8	5.00	"	50.0		69.6	30-130				
Diethyl phthalate	37.0	5.00	"	50.0		74.0	30-140				
2,4-Dimethylphenol	30.5	5.00	"	50.0		60.9	30-130				
Dimethyl phthalate	36.7	5.00	"	50.0		73.4	30-140				
4,6-Dinitro-2-methylphenol	17.1	10.0	"	50.0		34.3	30-130				
2,4-Dinitrophenol	21.2	10.0	"	50.0		42.5	30-130				
2,6-Dinitrotoluene	38.7	5.00	"	50.0		77.4	30-140				
2,4-Dinitrotoluene	37.6	5.00	"	50.0		75.3	30-140				
Di-n-octyl phthalate	53.0	5.00	"	50.0		106	30-140				
Fluoranthene	37.5	5.00	"	50.0		75.0	30-140				
Fluorene	35.2	5.00	"	50.0		70.4	30-140				
Hexachlorobenzene	35.8	5.00	"	50.0		71.6	30-140				
Hexachlorobutadiene	33.5	5.00	"	50.0		67.0	30-140				
Hexachlorocyclopentadiene	7.43	5.00	"	50.0		14.9	30-140	Low Bias			
Hexachloroethane	21.7	5.00	"	50.0		43.4	30-140				
Indeno(1,2,3-cd)pyrene	26.0	5.00	"	50.0		52.1	30-140				
Isophorone	35.8	5.00	"	50.0		71.6	30-140				
2-Methylnaphthalene	33.2	5.00	"	50.0		66.3	30-140				
3- & 4-Methylphenols	19.0	5.00	"	50.0		38.0	30-130				
2-Methylphenol	16.8	5.00	"	50.0		33.7	30-130				
Naphthalene	33.0	5.00	"	50.0		65.9	30-140				
4-Nitroaniline	34.7	5.00	"	50.0		69.4	30-140				

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Semivolatile Organic Compounds by EPA Method 8270C - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BE30445 - EPA 3510C											
LCS (BE30445-BS1)								Prepared & Analyzed: 05/10/2013			
3-Nitroaniline	42.0	5.00	ug/L	50.0		83.9	30-140				
2-Nitroaniline	36.9	5.00	"	50.0		73.8	30-140				
Nitrobenzene	33.2	5.00	"	50.0		66.3	30-140				
2-Nitrophenol	33.5	5.00	"	50.0		67.0	30-130				
4-Nitrophenol	6.02	5.00	"	50.0		12.0	30-130	Low Bias			
N-nitroso-di-n-propylamine	36.4	5.00	"	50.0		72.9	30-140				
N-Nitrosodimethylamine	10.8	5.00	"	50.0		21.6	30-140	Low Bias			
N-Nitrosodiphenylamine	39.7	5.00	"	50.0		79.3	30-140				
Pentachlorophenol	56.4	5.00	"	50.0		113	30-130				
Phenanthrene	36.8	5.00	"	50.0		73.6	30-140				
Phenol	11.1	5.00	"	50.0		22.2	30-130	Low Bias			
Pyrene	45.5	5.00	"	50.0		91.0	30-140				
Pyridine	5.47	5.00	"	50.0		10.9	30-140	Low Bias			
1,2,4-Trichlorobenzene	33.8	5.00	"	50.0		67.6	30-140				
2,4,6-Trichlorophenol	37.7	5.00	"	50.0		75.4	30-130				
2,4,5-Trichlorophenol	37.8	5.00	"	50.0		75.7	30-130				
Surrogate: 2,4,6-Tribromophenol	*61.7*		"	*75.0*		*82.3*	*15-110*				
Surrogate: 2-Fluorobiphenyl	*32.6*		"	*50.1*		*65.2*	*30-130*				
rogate: 2-Fluorophenol	*21.0*		"	*75.0*		*27.9*	*15-110*				
rogate: Nitrobenzene-d5	*31.6*		"	*50.0*		*63.2*	*30-130*				
Surrogate: Phenol-d5	*14.8*		"	*75.1*		*19.7*	*10-110*				
Surrogate: Terphenyl-d14	*45.9*		"	*50.0*		*91.8*	*30-130*				
LCS Dup (BE30445-BSD1)								Prepared & Analyzed: 05/10/2013			
Acenaphthene	33.7	5.00	ug/L	50.0		67.5	30-140		6.15	20	
Acenaphthylene	31.6	5.00	"	50.0		63.3	30-140		6.01	20	
Aniline	21.5	5.00	"	50.0		43.1	30-140		6.67	20	
Anthracene	33.8	5.00	"	50.0		67.7	30-140		4.36	20	
Benzo(a)anthracene	37.4	5.00	"	50.0		74.8	30-140		1.29	20	
Benzo(a)pyrene	41.7	5.00	"	50.0		83.3	30-140		3.21	20	
Benzo(b)fluoranthene	43.0	5.00	"	50.0		86.1	30-140		4.74	20	
Benzyl alcohol	20.1	5.00	"	50.0		40.1	30-130		7.81	20	
Benzo(g,h,i)perylene	19.7	5.00	"	50.0		39.4	30-140		16.5	20	
Benzo(k)fluoranthene	39.9	5.00	"	50.0		79.8	30-140		10.5	20	
Benzyl butyl phthalate	38.8	5.00	"	50.0		77.6	30-140		9.17	20	
4-Bromophenyl phenyl ether	33.2	5.00	"	50.0		66.3	30-140		6.25	20	
4-Chloro-3-methylphenol	27.1	5.00	"	50.0		54.2	30-130		5.14	20	
4-Chloroaniline	40.8	5.00	"	50.0		81.7	30-140		3.16	20	
Bis(2-chloroethoxy)methane	29.0	5.00	"	50.0		58.0	30-140		12.3	20	
Bis(2-chloroethyl)ether	29.0	5.00	"	50.0		57.9	30-140		6.97	20	
Bis(2-chloroisopropyl)ether	48.7	5.00	"	50.0		97.4	30-140		13.6	20	
Bis(2-ethylhexyl)phthalate	309	5.00	"	50.0		618	30-140	High Bias	155	20	Non-dir.
2-Chloronaphthalene	32.1	5.00	"	50.0		64.2	30-140		7.41	20	
2-Chlorophenol	27.0	5.00	"	50.0		53.9	30-130		9.27	20	
4-Chlorophenyl phenyl ether	32.8	5.00	"	50.0		65.7	30-140		3.85	20	
Chrysene	35.9	5.00	"	50.0		71.8	30-140		1.49	20	
Dibenzo(a,h)anthracene	23.7	5.00	"	50.0		47.3	30-140		10.1	20	
Dibenzofuran	34.0	5.00	"	50.0		67.9	30-140		6.00	20	
-butyl phthalate	35.3	5.00	"	50.0		70.5	30-140		7.53	20	
Dichlorobenzene	29.0	5.00	"	50.0		58.0	30-140		5.07	20	
1,3-Dichlorobenzene	26.6	5.00	"	50.0		53.2	30-140		6.62	20	

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Semivolatile Organic Compounds by EPA Method 8270C - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BE30445 - EPA 3510C											
LCS Dup (BE30445-BSD1)							Prepared & Analyzed: 05/10/2013				
1,4-Dichlorobenzene	30.5	5.00	ug/L	50.0		60.9	30-140		7.25	20	
3,3'-Dichlorobenzidine	41.0	5.00	"	50.0		81.9	30-140		12.0	20	
2,4-Dichlorophenol	31.7	5.00	"	50.0		63.4	30-130		9.41	20	
Diethyl phthalate	35.5	5.00	"	50.0		71.0	30-140		4.19	20	
2,4-Dimethylphenol	27.8	5.00	"	50.0		55.7	30-130		9.06	20	
Dimethyl phthalate	34.8	5.00	"	50.0		69.6	30-140		5.29	20	
4,6-Dinitro-2-methylphenol	19.6	10.0	"	50.0		39.3	30-130		13.5	20	
2,4-Dinitrophenol	25.1	10.0	"	50.0		50.3	30-130		16.9	20	
2,6-Dinitrotoluene	36.4	5.00	"	50.0		72.9	30-140		5.94	20	
2,4-Dinitrotoluene	35.6	5.00	"	50.0		71.3	30-140		5.43	20	
Di-n-octyl phthalate	44.1	5.00	"	50.0		88.2	30-140		18.3	20	
Fluoranthene	35.5	5.00	"	50.0		71.0	30-140		5.51	20	
Fluorene	33.3	5.00	"	50.0		66.6	30-140		5.61	20	
Hexachlorobenzene	33.7	5.00	"	50.0		67.4	30-140		6.07	20	
Hexachlorobutadiene	30.1	5.00	"	50.0		60.2	30-140		10.6	20	
Hexachlorocyclopentadiene	5.66	5.00	"	50.0		11.3	30-140	Low Bias	27.0	20	Non-dir.
Hexachloroethane	20.3	5.00	"	50.0		40.6	30-140		6.81	20	
Indeno(1,2,3-cd)pyrene	23.1	5.00	"	50.0		46.1	30-140		12.2	20	
Isophorone	32.6	5.00	"	50.0		65.2	30-140		9.30	20	
2-Methylnaphthalene	30.3	5.00	"	50.0		60.7	30-140		8.85	20	
3- & 4-Methylphenols	16.8	5.00	"	50.0		33.6	30-130		12.5	20	
2-Methylphenol	20.4	5.00	"	50.0		40.9	30-130		19.3	20	
Naphthalene	30.0	5.00	"	50.0		60.0	30-140		9.43	20	
4-Nitroaniline	34.3	5.00	"	50.0		68.7	30-140		0.985	20	
3-Nitroaniline	41.0	5.00	"	50.0		81.9	30-140		2.44	20	
2-Nitroaniline	36.0	5.00	"	50.0		72.0	30-140		2.41	20	
Nitrobenzene	29.5	5.00	"	50.0		59.0	30-140		11.7	20	
2-Nitrophenol	30.1	5.00	"	50.0		60.2	30-130		10.8	20	
4-Nitrophenol	5.63	5.00	"	50.0		11.3	30-130	Low Bias	6.70	20	
N-nitroso-di-n-propylamine	32.8	5.00	"	50.0		65.5	30-140		10.6	20	
N-Nitrosodimethylamine	12.7	5.00	"	50.0		25.5	30-140	Low Bias	16.3	20	
N-Nitrosodiphenylamine	37.8	5.00	"	50.0		75.6	30-140		4.77	20	
Pentachlorophenol	52.5	5.00	"	50.0		105	30-130		7.00	20	
Phenanthrene	35.2	5.00	"	50.0		70.4	30-140		4.36	20	
Phenol	10.1	5.00	"	50.0		20.1	30-130	Low Bias	9.83	20	
Pyrene	39.6	5.00	"	50.0		79.3	30-140		13.8	20	
Pyridine	7.20	5.00	"	50.0		14.4	30-140	Low Bias	27.3	20	Non-dir.
1,2,4-Trichlorobenzene	30.7	5.00	"	50.0		61.5	30-140		9.57	20	
2,4,6-Trichlorophenol	35.4	5.00	"	50.0		70.9	30-130		6.13	20	
2,4,5-Trichlorophenol	35.3	5.00	"	50.0		70.6	30-130		6.95	20	
Surrogate: 2,4,6-Tribromophenol	*57.1*		*"*	*75.0*		*76.2*	*15-110*				
Surrogate: 2-Fluorobiphenyl	*31.3*		*"*	*50.1*		*62.4*	*30-130*				
Surrogate: 2-Fluorophenol	*22.0*		*"*	*75.0*		*29.4*	*15-110*				
Surrogate: Nitrobenzene-d5	*28.8*		*"*	*50.0*		*57.6*	*30-130*				
Surrogate: Phenol-d5	*13.3*		*"*	*75.1*		*17.7*	*10-110*				
Surrogate: Terphenyl-d14	*40.5*		*"*	*50.0*		*80.9*	*30-130*				

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Organochlorine Pesticides by EPA SW 846-8081 - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BE30482 - EPA 3550B											
Blank (BE30482-BLK1)											
Prepared: 05/10/2013 Analyzed: 05/13/2013											
Toxaphene	ND	16.7	ug/kg wet								
Methoxychlor	ND	1.65	"								
Heptachlor epoxide	ND	0.330	"								
Heptachlor	ND	0.330	"								
gamma-BHC (Lindane)	ND	0.330	"								
Endrin ketone	ND	0.330	"								
Endrin aldehyde	ND	0.330	"								
Endrin	ND	0.330	"								
Endosulfan sulfate	ND	0.330	"								
Endosulfan II	ND	0.330	"								
Endosulfan I	ND	0.330	"								
Dieldrin	ND	0.330	"								
delta-BHC	ND	0.330	"								
Chlordane, total	ND	1.32	"								
beta-BHC	ND	0.330	"								
alpha-BHC	ND	0.330	"								
Aldrin	ND	0.330	"								
4,4'-DDT	ND	0.330	"								
4,4'-DDE	ND	0.330	"								
4,4'-DDD	ND	0.330	"								
Aroclor 1260	ND	17.0	"								
Aroclor 1254	ND	17.0	"								
Aroclor 1248	ND	17.0	"								
Aroclor 1242	ND	17.0	"								
Aroclor 1232	ND	17.0	"								
Aroclor 1221	ND	17.0	"								
Aroclor 1016	ND	17.0	"								
Total PCBs	ND	17.0	"								
Surrogate: Tetrachloro-m-xylene	*32.7*		"	*66.7*		*49.0*	*30-150*				
Surrogate: Decachlorobiphenyl	*56.3*		"	*67.0*		*84.0*	*30-150*				

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Organochlorine Pesticides by EPA SW 846-8081 - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BE30482 - EPA 3550B											
LCS (BE30482-BS1)								Prepared: 05/10/2013 Analyzed: 05/13/2013			
Methoxychlor	28.7	1.65	ug/kg wet	33.3		86.2	40-140				
Heptachlor epoxide	24.8	0.330	"	33.3		74.5	40-140				
Heptachlor	18.5	0.330	"	33.3		55.6	40-140				
gamma-BHC (Lindane)	18.9	0.330	"	33.3		56.6	40-140				
Endrin ketone	29.3	0.330	"	33.3		88.0	40-140				
Endrin aldehyde	28.3	0.330	"	33.3		85.0	40-140				
Endrin	30.5	0.330	"	33.3		91.4	40-140				
Endosulfan sulfate	30.9	0.330	"	33.3		92.8	40-140				
Endosulfan II	30.9	0.330	"	33.3		92.7	40-140				
Endosulfan I	27.8	0.330	"	33.3		83.5	40-140				
Dieldrin	27.0	0.330	"	33.3		81.1	40-140				
delta-BHC	28.2	0.330	"	33.3		84.6	40-140				
beta-BHC	25.7	0.330	"	33.3		77.1	40-140				
alpha-BHC	17.4	0.330	"	33.3		52.2	40-140				
Aldrin	19.3	0.330	"	33.3		57.9	40-140				
4,4'-DDT	33.1	0.330	"	33.3		99.3	40-140				
4,4'-DDE	29.6	0.330	"	33.3		88.7	40-140				
4,4'-DDD	33.9	0.330	"	33.3		102	40-140				
Surrogate: Tetrachloro-m-xylene	*38.1*		"	*66.7*		*57.2*	*30-150*				
Surrogate: Decachlorobiphenyl	*69.1*		"	*67.0*		*103*	*30-150*				
LCS (BE30482-BS2)								Prepared: 05/10/2013 Analyzed: 05/13/2013			
Aroclor 1260	299	17.0	ug/kg wet	333		89.7	40-140				
Aroclor 1016	192	17.0	"	333		57.7	40-140				
Surrogate: Tetrachloro-m-xylene	*30.3*		"	*66.7*		*45.5*	*30-150*				
Surrogate: Decachlorobiphenyl	*54.7*		"	*67.0*		*81.6*	*30-150*				
LCS Dup (BE30482-BSD1)								Prepared: 05/10/2013 Analyzed: 05/13/2013			
Methoxychlor	32.9	1.65	ug/kg wet	33.3		98.6	40-140		13.5	200	
Heptachlor epoxide	20.8	0.330	"	33.3		62.5	40-140		17.5	200	
Heptachlor	14.6	0.330	"	33.3		43.9	40-140		23.6	200	
gamma-BHC (Lindane)	14.8	0.330	"	33.3		44.3	40-140		24.5	200	
Endrin ketone	26.6	0.330	"	33.3		79.8	40-140		9.69	200	
Endrin aldehyde	26.3	0.330	"	33.3		78.9	40-140		7.41	200	
Endrin	26.7	0.330	"	33.3		80.2	40-140		13.0	200	
Endosulfan sulfate	29.5	0.330	"	33.3		88.6	40-140		4.66	200	
Endosulfan II	28.1	0.330	"	33.3		84.4	40-140		9.38	200	
Endosulfan I	24.0	0.330	"	33.3		72.0	40-140		14.8	200	
Dieldrin	23.7	0.330	"	33.3		71.2	40-140		13.0	200	
delta-BHC	24.0	0.330	"	33.3		72.1	40-140		16.0	200	
beta-BHC	21.4	0.330	"	33.3		64.1	40-140		18.4	200	
alpha-BHC	13.5	0.330	"	33.3		40.4	40-140		25.4	200	
Aldrin	15.1	0.330	"	33.3		45.3	40-140		24.4	200	
4,4'-DDT	32.2	0.330	"	33.3		96.5	40-140		2.93	200	
4,4'-DDE	26.2	0.330	"	33.3		78.7	40-140		12.0	200	
4,4'-DDD	30.2	0.330	"	33.3		90.6	40-140		11.6	200	
Surrogate: Tetrachloro-m-xylene	*28.5*		"	*66.7*		*42.8*	*30-150*				
Surrogate: Decachlorobiphenyl	*65.4*		"	*67.0*		*97.6*	*30-150*				

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Organochlorine Pesticides by EPA SW 846-8081 - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BE30583 - EPA SW846-3510C Low Level											
Blank (BE30583-BLK1)									Prepared: 05/14/2013 Analyzed: 05/15/2013		
Toxaphene	ND	0.0500	ug/L								
Methoxychlor	ND	0.00500	"								
Heptachlor epoxide	ND	0.00100	"								
Heptachlor	ND	0.00100	"								
gamma-BHC (Lindane)	ND	0.00100	"								
Endrin ketone	ND	0.00100	"								
Endrin aldehyde	ND	0.00100	"								
Endrin	ND	0.00100	"								
Endosulfan sulfate	ND	0.00100	"								
Endosulfan II	ND	0.00100	"								
Endosulfan I	ND	0.00100	"								
Dieldrin	ND	0.00100	"								
delta-BHC	ND	0.00100	"								
Chlordane, total	ND	0.00400	"								
beta-BHC	ND	0.00100	"								
alpha-BHC	ND	0.00100	"								
Aldrin	ND	0.00100	"								
4,4'-DDT	ND	0.00100	"								
4,4'-DDE	ND	0.00100	"								
4,4'-DDD	ND	0.00100	"								
Aroclor 1260	ND	0.0500	"								
Aroclor 1254	ND	0.0500	"								
Aroclor 1248	ND	0.0500	"								
Aroclor 1242	ND	0.0500	"								
Aroclor 1232	ND	0.0500	"								
Aroclor 1221	ND	0.0500	"								
Aroclor 1016	ND	0.0500	"								
Total PCBs	ND	0.0500	"								
Surrogate: Tetrachloro-m-xylene	*0.111*		"	*0.200*		*55.6*	*30-150*				
Surrogate: Decachlorobiphenyl	*0.154*		"	*0.201*		*76.8*	*30-150*				

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Organochlorine Pesticides by EPA SW 846-8081 - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BE30583 - EPA SW846-3510C Low Level											
LCS (BE30583-BS1)								Prepared: 05/14/2013 Analyzed: 05/15/2013			
Methoxychlor	0.0791	0.00500	ug/L	0.100		79.1	40-140				
Heptachlor epoxide	0.0540	0.00100	"	0.100		54.0	40-140				
Heptachlor	0.0568	0.00100	"	0.100		56.8	40-140				
gamma-BHC (Lindane)	0.0525	0.00100	"	0.100		52.5	40-140				
Endrin ketone	0.0727	0.00100	"	0.100		72.7	40-140				
Endrin aldehyde	0.0674	0.00100	"	0.100		67.4	40-140				
Endrin	0.0675	0.00100	"	0.100		67.5	40-140				
Endosulfan sulfate	0.0636	0.00100	"	0.100		63.6	40-140				
Endosulfan II	0.0572	0.00100	"	0.100		57.2	40-140				
Endosulfan I	0.0570	0.00100	"	0.100		57.0	40-140				
Dieldrin	0.0582	0.00100	"	0.100		58.2	40-140				
delta-BHC	0.0650	0.00100	"	0.100		65.0	40-140				
beta-BHC	0.0566	0.00100	"	0.100		56.6	40-140				
alpha-BHC	0.0503	0.00100	"	0.100		50.3	40-140				
Aldrin	0.0514	0.00100	"	0.100		51.4	40-140				
4,4'-DDT	0.0725	0.00100	"	0.100		72.5	40-140				
4,4'-DDE	0.0601	0.00100	"	0.100		60.1	40-140				
4,4'-DDD	0.0711	0.00100	"	0.100		71.1	40-140				
Surrogate: Tetrachloro-m-xylene	*0.0991*		"	*0.200*		*49.6*	*30-150*				
Surrogate: Decachlorobiphenyl	*0.136*		"	*0.201*		*67.5*	*30-150*				
LCS (BE30583-BS2)								Prepared & Analyzed: 05/14/2013			
Aroclor 1260	0.734	0.0500	ug/L	1.00		73.4	40-140				
Aroclor 1016	0.689	0.0500	"	1.00		68.9	40-140				
Surrogate: Tetrachloro-m-xylene	*0.114*		"	*0.200*		*57.0*	*30-150*				
Surrogate: Decachlorobiphenyl	*0.140*		"	*0.201*		*69.7*	*30-150*				
LCS Dup (BE30583-BSD1)								Prepared: 05/14/2013 Analyzed: 05/15/2013			
Methoxychlor	0.0830	0.00500	ug/L	0.100		83.0	40-140		4.80	200	
Heptachlor epoxide	0.0615	0.00100	"	0.100		61.5	40-140		12.9	200	
Heptachlor	0.0627	0.00100	"	0.100		62.7	40-140		9.99	200	
gamma-BHC (Lindane)	0.0577	0.00100	"	0.100		57.7	40-140		9.48	200	
Endrin ketone	0.0770	0.00100	"	0.100		77.0	40-140		5.75	200	
Endrin aldehyde	0.0734	0.00100	"	0.100		73.4	40-140		8.62	200	
Endrin	0.0745	0.00100	"	0.100		74.5	40-140		9.85	200	
Endosulfan sulfate	0.0689	0.00100	"	0.100		68.9	40-140		8.08	200	
Endosulfan II	0.0633	0.00100	"	0.100		63.3	40-140		10.1	200	
Endosulfan I	0.0644	0.00100	"	0.100		64.4	40-140		12.2	200	
Dieldrin	0.0652	0.00100	"	0.100		65.2	40-140		11.2	200	
delta-BHC	0.0700	0.00100	"	0.100		70.0	40-140		7.38	200	
beta-BHC	0.0613	0.00100	"	0.100		61.3	40-140		7.94	200	
alpha-BHC	0.0569	0.00100	"	0.100		56.9	40-140		12.4	200	
Aldrin	0.0576	0.00100	"	0.100		57.6	40-140		11.4	200	
4,4'-DDT	0.0799	0.00100	"	0.100		79.9	40-140		9.70	200	
4,4'-DDE	0.0682	0.00100	"	0.100		68.2	40-140		12.7	200	
4,4'-DDD	0.0775	0.00100	"	0.100		77.5	40-140		8.61	200	
Surrogate: Tetrachloro-m-xylene	*0.110*		"	*0.200*		*54.9*	*30-150*				
Surrogate: Decachlorobiphenyl	*0.151*		"	*0.201*		*75.3*	*30-150*				

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Organochlorine Pesticides by EPA SW 846-8081 - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BE30583 - EPA SW846-3510C Low Level											
LCS Dup (BE30583-BSD2)								Prepared & Analyzed: 05/14/2013			
Aroclor 1260	0.764	0.0500	ug/L	1.00		76.4	40-140		4.03	200	
Aroclor 1016	0.704	0.0500	"	1.00		70.4	40-140		2.07	200	
Surrogate: Tetrachloro-m-xylene	*0.116*		"	*0.200*		*58.0*	*30-150*				
Surrogate: Decachlorobiphenyl	*0.153*		"	*0.201*		*76.1*	*30-150*				

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Chlorinated Herbicides by EPA Method 8151 - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BE30503 - EPA 3550B/8151A											
Blank (BE30503-BLK1)								Prepared: 05/13/2013 Analyzed: 05/14/2013			
2,4-D	ND	20.0	ug/kg wet								
2,4,5-TP (Silvex)	ND	20.0	"								
2,4,5-T	ND	20.0	"								
Surrogate: 2,4-Dichlorophenylacetic acid (DCAA)	*525*		"	*500*		*105*	*28.3-149*				
LCS (BE30503-BS1)								Prepared: 05/13/2013 Analyzed: 05/14/2013			
2,4-D	120	20.0	ug/kg wet	160		75.0	27.8-143				
2,4,5-TP (Silvex)	119	20.0	"	160		74.4	28.4-148				
2,4,5-T	110	20.0	"	160		68.8	18.9-153				
Surrogate: 2,4-Dichlorophenylacetic acid (DCAA)	*423*		"	*500*		*84.6*	*28.3-149*				
LCS Dup (BE30503-BSD1)								Prepared: 05/13/2013 Analyzed: 05/14/2013			
2,4-D	128	20.0	ug/kg wet	160		80.0	27.8-143		6.45	38	
2,4,5-TP (Silvex)	130	20.0	"	160		81.2	28.4-148		8.84	39	
2,4,5-T	128	20.0	"	160		80.0	18.9-153		15.1	39	
Surrogate: 2,4-Dichlorophenylacetic acid (DCAA)	*454*		"	*500*		*90.8*	*28.3-149*				
Matrix Spike (BE30503-MS1)	*Source sample: 13E0380-01 (B1 0-10 Comp)							Prepared: 05/13/2013 Analyzed: 05/14/2013			
2,4-D	110	23.4	ug/kg dry	187	ND	58.8	13-125				
2,4,5-TP (Silvex)	108	23.4	"	187	ND	57.5	16-125				
2,4,5-T	110	23.4	"	187	ND	58.8	17-125				
Surrogate: 2,4-Dichlorophenylacetic acid (DCAA)	*372*		"	*585*		*63.6*	*28.3-149*				
Batch BE30539 - EPA 3535A											
Blank (BE30539-BLK1)								Prepared: 05/13/2013 Analyzed: 05/14/2013			
2,4-D	ND	5.00	ug/L								
2,4,5-TP (Silvex)	ND	5.00	"								
2,4,5-T	ND	5.00	"								
Surrogate: 2,4-Dichlorophenylacetic acid (DCAA)	*114*		"	*125*		*90.8*	*33-153*				

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Chlorinated Herbicides by EPA Method 8151 - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BE30539 - EPA 3535A											
LCS (BE30539-BS1)									Prepared: 05/13/2013 Analyzed: 05/14/2013		
2,4-D	38.0	5.00	ug/L	40.0		95.0	28.9-127				
2,4,5-TP (Silvex)	36.5	5.00	"	40.0		91.2	19.8-150				
2,4,5-T	35.8	5.00	"	40.0		89.4	17.5-151				
Surrogate: 2,4-Dichlorophenylacetic acid (DCAA)	*128*		*"*	*125*		*103*	*33-153*				
LCS Dup (BE30539-BSD1)									Prepared: 05/13/2013 Analyzed: 05/14/2013		
2,4-D	36.8	5.00	ug/L	40.0		91.9	28.9-127		3.34	25	
2,4,5-TP (Silvex)	36.5	5.00	"	40.0		91.2	19.8-150		0.00	25	
2,4,5-T	37.2	5.00	"	40.0		93.1	17.5-151		4.11	25	
Surrogate: 2,4-Dichlorophenylacetic acid (DCAA)	*116*		*"*	*125*		*92.8*	*33-153*				

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Metals by EPA 6000 Series Methods - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BE30519 - EPA 3050B											
Blank (BE30519-BLK1)									Prepared & Analyzed: 05/13/2013		
Aluminum	ND	2.00	mg/kg wet								
Antimony	ND	0.500	"								
Arsenic	ND	1.00	"								
Barium	ND	0.500	"								
Beryllium	ND	0.100	"								
Cadmium	ND	0.500	"								
Calcium	ND	5.00	"								
Chromium	ND	0.500	"								
Cobalt	ND	0.500	"								
Copper	ND	0.500	"								
Iron	ND	2.00	"								
Lead	ND	0.300	"								
Magnesium	ND	5.00	"								
Manganese	ND	1.00	"								
Nickel	ND	0.500	"								
Potassium	ND	10.0	"								
Selenium	ND	0.500	"								
Silver	ND	0.500	"								
Sodium	ND	10.0	"								
Thallium	ND	0.500	"								
Vanadium	ND	0.500	"								
Zinc	ND	0.500	"								
Reference (BE30519-SRM1)									Prepared & Analyzed: 05/13/2013		
Aluminum	9100	2.00	mg/kg wet	8360		109	40.4-159				
Antimony	87.7	0.500	"	92.9		94.4	24.8-272				
Arsenic	93.7	1.00	"	94.5		99.2	69.2-131				
Barium	169	0.500	"	166		102	72.9-127				
Beryllium	52.2	0.100	"	52.6		99.3	73-127				
Cadmium	57.7	0.500	"	59.9		96.3	73.1-127				
Calcium	5910	5.00	"	6160		96.0	73.9-126				
Chromium	67.0	0.500	"	69.3		96.7	68.4-132				
Cobalt	103	0.500	"	101		102	74.2-125				
Copper	82.9	0.500	"	78.0		106	73.6-126				
Iron	13700	2.00	"	12800		107	31.8-168				
Lead	88.9	0.300	"	91.7		96.9	70.2-130				
Magnesium	3040	5.00	"	3030		100	66-134				
Manganese	278	1.00	"	283		98.1	73.9-125				
Nickel	62.9	0.500	"	56.6		111	70-130				
Potassium	3870	10.0	"	3820		101	64.7-136				
Selenium	161	0.500	"	159		101	67.9-133				
Silver	31.6	0.500	"	33.9		93.1	65.5-135				
Sodium	756	10.0	"	652		116	55.1-145				
Thallium	114	0.500	"	119		95.4	67.6-133				
Vanadium	57.5	0.500	"	56.3		102	53.3-147				
Zinc	135	0.500	"	137		98.6	67.4-133				

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Metals by EPA 6000 Series Methods - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BE30570 - EPA 3010A											
Blank (BE30570-BLK1)									Prepared & Analyzed: 05/13/2013		
Aluminum	ND	0.010	mg/L								
Aluminum - Dissolved	ND	0.010	"								
Antimony	ND	0.005	"								
Antimony - Dissolved	ND	0.005	"								
Arsenic - Dissolved	ND	0.004	"								
Arsenic	ND	0.004	"								
Barium - Dissolved	ND	0.010	"								
Barium	ND	0.010	"								
Beryllium - Dissolved	ND	0.001	"								
Beryllium	ND	0.001	"								
Cadmium - Dissolved	ND	0.003	"								
Cadmium	ND	0.003	"								
Calcium - Dissolved	ND	0.050	"								
Calcium	ND	0.050	"								
Chromium - Dissolved	ND	0.005	"								
Chromium	ND	0.005	"								
Cobalt - Dissolved	ND	0.005	"								
Cobalt	ND	0.005	"								
Copper - Dissolved	ND	0.005	"								
Copper	ND	0.005	"								
Iron - Dissolved	ND	0.020	"								
Iron	ND	0.020	"								
Lead - Dissolved	ND	0.003	"								
Lead	ND	0.003	"								
Magnesium - Dissolved	ND	0.050	"								
Magnesium	ND	0.050	"								
Manganese - Dissolved	ND	0.005	"								
Manganese	ND	0.005	"								
Nickel - Dissolved	ND	0.005	"								
Nickel	ND	0.005	"								
Potassium - Dissolved	ND	0.050	"								
Potassium	ND	0.050	"								
Selenium - Dissolved	ND	0.010	"								
Selenium	ND	0.010	"								
Silver - Dissolved	ND	0.005	"								
Silver	ND	0.005	"								
Sodium - Dissolved	ND	0.100	"								
Sodium	ND	0.100	"								
Thallium - Dissolved	ND	0.010	"								
Thallium	ND	0.010	"								
Vanadium - Dissolved	ND	0.010	"								
Vanadium	ND	0.010	"								
Zinc - Dissolved	ND	0.020	"								
Zinc	ND	0.020	"								

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Metals by EPA 6000 Series Methods - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BE30570 - EPA 3010A											
Reference (BE30570-SRM1)							Prepared & Analyzed: 05/13/2013				
Aluminum	0.308	0.010	mg/L	0.292		105	72.6-129				
Aluminum - Dissolved	0.308	0.010	"	0.292		105	72.6-129				
Antimony	0.671	0.005	"	0.686		97.8	70.6-120				
Antimony - Dissolved	0.671	0.005	"	0.686		97.8	70.6-120				
Arsenic	0.175	0.004	"	0.182		96.1	81.9-118				
Arsenic - Dissolved	0.175	0.004	"	0.182		96.1	81.9-118				
Barium	2.13	0.010	"	2.08		102	87-113				
Barium - Dissolved	2.13	0.010	"	2.08		102	87-113				
Beryllium	0.164	0.001	"	0.169		97.0	84.6-113				
Beryllium - Dissolved	0.164	0.001	"	0.169		97.0	84.6-113				
Cadmium	0.384	0.003	"	0.393		97.7	85.2-114				
Cadmium - Dissolved	0.384	0.003	"	0.393		97.7	85.2-114				
Chromium	0.591	0.005	"	0.611		96.7	87.1-113				
Chromium - Dissolved	0.591	0.005	"	0.611		96.7	87.1-113				
Cobalt	0.288	0.005	"	0.290		99.5	87.6-112				
Cobalt - Dissolved	0.288	0.005	"	0.290		99.5	87.6-112				
Copper	0.557	0.005	"	0.569		97.9	90-110				
Copper - Dissolved	0.557	0.005	"	0.569		97.9	90-110				
Iron	0.449	0.020	"	0.462		97.2	87.9-114				
Iron - Dissolved	0.449	0.020	"	0.462		97.2	87.9-114				
Lead - Dissolved	0.267	0.003	"	0.259		103	85.7-114				
Lead	0.267	0.003	"	0.259		103	85.7-114				
Manganese - Dissolved	1.31	0.005	"	1.28		103	89.8-111				
Manganese	1.31	0.005	"	1.28		103	89.8-111				
Nickel - Dissolved	0.300	0.005	"	0.279		108	88.5-113				
Nickel	0.300	0.005	"	0.279		108	88.5-113				
Selenium - Dissolved	0.999	0.010	"	1.05		95.2	79.5-116				
Selenium	0.999	0.010	"	1.05		95.2	79.5-116				
Silver - Dissolved	0.307	0.005	"	0.333		92.3	85.9-115				
Silver	0.307	0.005	"	0.333		92.3	85.9-115				
Thallium - Dissolved	0.509	0.010	"	0.487		105	80.1-120				
Thallium	0.509	0.010	"	0.487		105	80.1-120				
Vanadium - Dissolved	0.432	0.010	"	0.455		94.9	87.5-112				
Vanadium	0.432	0.010	"	0.455		94.9	87.5-112				
Zinc	0.180	0.020	"	0.191		94.2	84.8-118				
Zinc - Dissolved	0.180	0.020	"	0.191		94.2	84.8-118				

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Metals by EPA 6000 Series Methods - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BE30570 - EPA 3010A											
Reference (BE30570-SRM2)							Prepared & Analyzed: 05/13/2013				
Calcium - Dissolved	62.7	0.050	mg/L	62.7		100	86-114				
Calcium	62.7	0.050	"	62.7		100	86-114				
Magnesium	29.0	0.050	"	29.0		99.9	86.2-114				
Magnesium - Dissolved	29.0	0.050	"	29.0		99.9	86.2-114				
Potassium - Dissolved	34.0	0.050	"	32.4		105	85.2-115				
Potassium	34.0	0.050	"	32.4		105	85.2-115				
Sodium - Dissolved	85.3	0.100	"	85.1		100	85-115				
Sodium	85.3	0.100	"	85.1		100	85-115				

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Mercury by EPA 7000/200 Series Methods - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BE30527 - EPA SW846-7470											
Blank (BE30527-BLK1)								Prepared: 05/13/2013 Analyzed: 05/14/2013			
Mercury	ND	0.0002	mg/L								
LCS (BE30527-BS1)								Prepared: 05/13/2013 Analyzed: 05/14/2013			
Mercury	0.002304	0.0002	mg/L	0.00200		115	80-120				
Batch BE30528 - EPA SW846-7470											
Blank (BE30528-BLK1)								Prepared: 05/13/2013 Analyzed: 05/14/2013			
Mercury - Dissolved	ND	0.0002000	mg/L								
LCS (BE30528-BS1)								Prepared: 05/13/2013 Analyzed: 05/14/2013			
Mercury - Dissolved	0.002304	0.0002000	mg/L	0.00200		115	80-120				
Batch BE30529 - EPA SW846-7471											
Blank (BE30529-BLK1)								Prepared: 05/13/2013 Analyzed: 05/14/2013			
Mercury	ND	0.0330	mg/kg wet								
LCS (BE30529-BS1)								Prepared: 05/13/2013 Analyzed: 05/14/2013			
Mercury	4.02		mg/kg	3.73		108	67.6-131				
Duplicate (BE30529-DUP1)	*Source sample: 13E0380-01 (B1 0-10 Comp)							Prepared: 05/13/2013 Analyzed: 05/14/2013			
Mercury	ND	0.0386	mg/kg dry		ND					35	
Matrix Spike (BE30529-MS1)	*Source sample: 13E0380-01 (B1 0-10 Comp)							Prepared: 05/13/2013 Analyzed: 05/14/2013			
Mercury	0.350		mg/kg	0.333	ND	105	75-125				

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Volatile Analysis Sample Containers

Lab ID	Client Sample ID	Volatile Sample Container
13E0380-05	B8 Grab 10-12	40mL Vial with Stir Bar-Cool 4° C
13E0380-06	B1-X Grab 6-8	40mL Vial with Stir Bar-Cool 4° C
13E0380-07	B6 Grab 10-12	40mL Vial with Stir Bar-Cool 4° C
13E0380-08	B8 GW	40mL Clear Vial (pre-pres.) HCl; Cool to 4° C

Notes and Definitions

S-AC	Acid surrogate recovery outside of control limits. The data was accepted based on valid recovery of remaining two acid surrogates.
QL-03	This LCS analyte recovered outside of acceptance limits. The LCS contains approximately 70 compounds, a limited number of which may be outside acceptance windows.
QL-02	This LCS analyte is outside Laboratory Recovery limits due the analyte behavior using the referenced method. The reference method has certain limitations with respect to analytes of this nature.
J	Detected below the Reporting Limit but greater than or equal to the Method Detection Limit (MDL); therefore, the result is an estimated concentration.
B	Analyte is found in the associated analysis batch blank. For volatiles, methylene chloride and acetone are common lab contaminants. Data users should consider anything <10x the blank value as artifact.

ND	Analyte NOT DETECTED at the stated Reporting Limit (RL) or above.
RL	REPORTING LIMIT - the minimum reportable value based upon the lowest point in the analyte calibration curve.
MDL	METHOD DETECTION LIMIT - the minimum concentration that can be measured and reported with a 99% confidence that the concentration is greater than zero. If requested or required, a value reported below the RL and above the MDL is considered estimated and is noted with a "J" flag.
NR	Not reported
RPD	Relative Percent Difference
Wet	The data has been reported on an as-received (wet weight) basis
Low Bias	Low Bias flag indicates that the recovery of the flagged analyte is below the laboratory or regulatory lower control limit. The data user should take note that this analyte may be biased low but should evaluate multiple lines of evidence including the LCS and site-specific MS/MSD data to draw bias conclusions. In cases where no site-specific MS/MSD was requested, only the LCS data can be used to evaluate such bias.
High Bias	High Bias flag indicates that the recovery of the flagged analyte is above the laboratory or regulatory upper control limit. The data user should take note that this analyte may be biased high but should evaluate multiple lines of evidence including the LCS and site-specific MS/MSD data to draw bias conclusions. In cases where no site-specific MS/MSD was requested, only the LCS data can be used to evaluate such bias.
Non-Dir.	Non-dir. flag (Non-Directional Bias) indicates that the Relative Percent Difference (RPD) (a measure of precision) among the MS and MSD data is outside the laboratory or regulatory control limit. This alerts the data user where the MS and MSD are from site-specific samples that the RPD is high due to either non-homogeneous distribution of target analyte between the MS/MSD or indicates poor reproducibility for other reasons.

If EPA SW-846 method 8270 is included herein it is noted that the target compound N-nitrosodiphenylamine (NDPA) decomposes in the gas chromatographic inlet and cannot be separated from diphenylamine (DPA). These results could actually represent 100% DPA, 100% NDPA or some combination of the two.
For this reason, York reports the combined result for n-nitrosodiphenylamine and diphenylamine for either of these compounds as a combined concentration as Diphenylamine.

If Total PCBs are detected and the target aroclors reported are "Not detected", the Total PCB value is reported due to the presence of either or both Aroclors 1262 and 1268 which are non-target aroclors for some regulatory lists.

2-chloroethylvinyl ether readily breaks down under acidic conditions. Samples that are acid preserved, including standards will exhibit breakdown. The data user should take note.

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Certification for pH is no longer offered by NYDOH ELAP.

Semi-Volatile and Volatile analyses are reported down to the MDL, with values between the MDL and the RL being "J" flagged as estimated results.

Corrective Action: Lab Recvd. (1) 8oz Jar, Soil, With Label /B6 5-9/ And Sampled On 5-3-2013 That Is Not Listed On COC

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YORK ANALYTICAL LABORATORIES
120 RESEARCH DR.
STRATFORD, CT 06615
(203) 325-1371
FAX (203) 357-0166

Field Chain-of-Custody Record

NOTE: York's Std. Terms & Conditions are listed on the back side of this document. This document serves as your written authorization to York to proceed with the analyses requested and your signature binds you to York's Std. Terms & Conditions.

York Project No. 13E0380

YOUR Information	**Report To:**	**Invoice To:**
Company: Parsons Brinckerhoff	Company: Parsons Brinckerhoff	Company: Parsons Brinckerhoff
Address: one Penn Plaza 2nd Fl New York, NY 10119	Address: one Penn Plaza 2nd FL New York, NY 10119	Address: one Penn Plaza 2nd Fl New York, NY 10119
Phone No. 917 371 8872	Phone No. 917 3271382	Phone No. 917 3271382
Contact Person: Greg Cellamare	Attention: Greg Cellamare	Attention: Greg Cellamare
E-Mail Address: jensenro@pbworld.com	E-Mail Address: Cellamare@Pbworld.com	E-Mail Address: CellaMare@Pbworld

YOUR Project ID: 183893A

Purchase Order No.

Samples from: CT ___ NY ___ NJ ___

Turn-Around Time

- RUSH - Same Day ☐
- RUSH - Next Day ☐
- RUSH - Two Day ☐
- RUSH - Three Day ☐
- RUSH - Four Day ☐
- Standard(5-7 Days) ☑

Report Type

- Summary Report ___
- Summary w/ QA Summary ✓
- CT RCP Package ___
- CTRCP DQA/DUE Pkg ___
- NY ASP A Package ___
- NY ASP B Package ___
- NJDEP Red. Deliv. ___

Electronic Data Deliverables (EDD)

- Simple Excel ___
- NYSDEC EQuIS ___
- EQuIS (std) ___
- EZ-EDD (EQuIS) ___
- NJDEP SRP HazSite EDD ___
- GIS/KEY (std) ___
- Other ___
- York Regulatory Comparison
- Excel Spreadsheet

Compare to the following Regs: (please fill in):

Print Clearly and Legibly. All Information must be complete. Samples will NOT be logged in and the turn-around time clock will not begin until any questions by York are resolved.

Robert Jensen
Samples Collected/Authorized By (Signature)

A5-173 Robert Jensen
Name (printed)

Matrix Codes
S - soil
Other - specify(oil, etc.)
WW - wastewater
GW - groundwater
DW - drinking water
Air-A - ambient air
Air-SV - soil vapor

Volatiles		Semi-Vols.	Pest/PCB/Herb	Metals	Misc. Org.	Full Lists	Misc.
8260 full	TICs	8270 or 625	8082PCB	RCRA8	TPH GRO	Pri.Poll.	Corrosivity
624	Site Spec.	STARS list	8081Pest	PP13 list	TPH DRO	TCL Organics	Reactivity
STARS list	Nassau Co.	BN Only	8151Herb	TAL	CT ETPH	TAL Met/CN	Ignitability
BTEX	Suffolk Co.	Acids Only	CT RCP	CT15 list	NY 310-13	Full TCLP	Flash Point
MTBE	Ketones	PAH list	App. IX	TAGM list	TPH 1664	Full App. IX	Sieve Anal.
TCL list	Oxygenates	TAGM list	Site Spec.	NJDEP list	Air TO14A	Part 360 Routine	Heterotrophs
TAGM list	TCLP list	CT RCP list	SPLP or TCLP	Total	Air TO15	Part 360 Baseline	TOX
CT RCP list	524.2	TCL list	TCLP Pest	Dissolved	Air STARS	Part 360 Expanded Non-Potable Waters	BTU/lb.
Arom. only	502.2	NJDEP list	TCLP Herb	SPLP or TCLP	Air VPH	Part 360 Expanded Full List	Aquatic Tox.
Halog.only	NJDEP list	App. IX	Chlordane	Indiv. Metals	Air TICs	NYCDEP Sewer	TOC
App.IX list	SPLP or TCLP	TCLP BNA	608 Pest	LIST Below	Methane	NYSDEC Sewer	Asbestos
8021B list		SPLP or TCLP	608 PCB		Helium	TAGM	Silica

Sample Identification	Date/Time Sampled	Sample Matrix	Choose Analyses Needed from the Menu Above and Enter Below	Container Description(s)
B1 0-10 COMP	5-7-13/12:10	S	~~VOC 8260~~, SVOC 8270, Pest 8081, PCBs 8082, Herb 8151, TAL Metals	8 oz Jar
B3 0-22 COMP	5-6-13/10:45	S	↓	↓
B6 0-22 COMP	5-3-13/13:20	S	↓	↓
B8 0-22 COMP	5-2-13/13:45	S	↓	↓
B8 Grab 10-12	5-2-13/12:00	S	VOC 8260	Vial x4
B1-X Grab 6-8	5-7-13/08:45	S	↓	
B6 Grab 10-12	5-3-13/11:15	S	↓	
B8 GW	5-8-13/11:20	W	VOC 8260, SVOC 8270, Pest 8081, PCBs 8082, Herb 8151	multiple
			TAL Metals (Total & disolved)	

Comments

Preservation Check those Applicable: 4°C ___ Frozen ___ HCl ___ MeOH ___ HNO3 ___ H2SO4 ___ NaOH ___ ZnAc ___ Ascorbic Acid ___ Other ___

Special Instructions
Field Filtered ☐
Lab to Filter ☐

Robert Jensen — Samples Relinquished By — 5/9/13 12 — Date/Time

Samples Relinquished By — Date/Time

Samples Received By — Date/Time 5/9/13 2:27

Grace — Samples Received in LAB by — 5-9-13 1845 — Date/Time

Temperature on Receipt 3.7°C

Technical Report

prepared for:

PB Americas, Inc.
One Penn Plaza, 2nd Floor
New York NY, 10119
Attention: Greg Cellamare

Report Date: 05/16/2013
Client Project ID: 183893A
York Project (SDG) No.: 13E0447

Report Date: 05/16/2013
Client Project ID: 183893A
York Project (SDG) No.: 13E0447

PB Americas, Inc.
One Penn Plaza, 2nd Floor
New York NY, 10119
Attention: Greg Cellamare

Purpose and Results

This report contains the analytical data for the sample(s) identified on the attached chain-of-custody received in our laboratory on May 10, 2013 and listed below. The project was identified as your project: **183893A.**

The analyses were conducted utilizing appropriate EPA, Standard Methods, and ASTM methods as detailed in the data summary tables.

All samples were received in proper condition meeting the customary acceptance requirements for environmental samples except those indicated under the Notes section of this report.

All analyses met the method and laboratory standard operating procedure requirements except as indicated by any data flags, the meaning of which are explained in the attachment to this report, and case narrative if applicable.

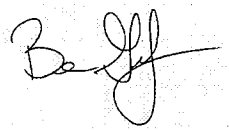
The results of the analyses, which are all reported on dry weight basis (soils) unless otherwise noted, are detailed in the following pages.

Please contact Client Services at 203.325.1371 with any questions regarding this report.

York Sample ID	Client Sample ID	Matrix	Date Collected	Date Received
13E0447-01	B2 Grab 10-12	Soil	05/10/2013	05/10/2013
13E0447-02	B2 0-22 Comp	Soil	05/10/2013	05/10/2013

General Notes for York Project (SDG) No.: 13E0447

1. The RLs and MDLs (Reporting Limit and Method Detection Limit respectively) reported are adjusted for any dilution necessary due to the levels of target and/or non-target analytes and matrix interference. The RL(REPORTING LIMIT) is based upon the lowest standard utilized for the calibration where applicable.
2. Samples are retained for a period of thirty days after submittal of report, unless other arrangements are made.
3. York's liability for the above data is limited to the dollar value paid to York for the referenced project.
4. This report shall not be reproduced without the written approval of York Analytical Laboratories, Inc.
5. All samples were received in proper condition for analysis with proper documentation, unless otherwise noted.
6. All analyses conducted met method or Laboratory SOP requirements. See the Qualifiers and/or Narrative sections for further information.
7. It is noted that no analyses reported herein were subcontracted to another laboratory, unless noted in the report.
8. This report reflects results that relate only to the samples submitted on the attached chain-of-custody form(s) received by York.

Approved By: 

Date: 05/16/2013

Benjamin Gulizia
Laboratory Director

YORK

Sample Information

Client Sample ID: B2 Grab 10-12 **York Sample ID:** 13E0447-01

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
13E0447	183893A	Soil	May 10, 2013 9:00 am	05/10/2013

Volatile Organics, 8260 List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
630-20-6	1,1,1,2-Tetrachloroethane	ND		ug/kg dry	2.1	4.2	1	EPA SW846-8260B	05/14/2013 08:59	05/14/2013 20:49	SS
71-55-6	1,1,1-Trichloroethane	ND		ug/kg dry	2.1	4.2	1	EPA SW846-8260B	05/14/2013 08:59	05/14/2013 20:49	SS
79-34-5	1,1,2,2-Tetrachloroethane	ND		ug/kg dry	2.1	4.2	1	EPA SW846-8260B	05/14/2013 08:59	05/14/2013 20:49	SS
76-13-1	,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113	ND		ug/kg dry	2.1	4.2	1	EPA SW846-8260B	05/14/2013 08:59	05/14/2013 20:49	SS
79-00-5	1,1,2-Trichloroethane	ND		ug/kg dry	2.1	4.2	1	EPA SW846-8260B	05/14/2013 08:59	05/14/2013 20:49	SS
75-34-3	1,1-Dichloroethane	ND		ug/kg dry	2.1	4.2	1	EPA SW846-8260B	05/14/2013 08:59	05/14/2013 20:49	SS
75-35-4	1,1-Dichloroethylene	ND		ug/kg dry	2.1	4.2	1	EPA SW846-8260B	05/14/2013 08:59	05/14/2013 20:49	SS
563-58-6	1,1-Dichloropropylene	ND		ug/kg dry	2.1	4.2	1	EPA SW846-8260B	05/14/2013 08:59	05/14/2013 20:49	SS
87-61-6	1,2,3-Trichlorobenzene	ND		ug/kg dry	2.1	4.2	1	EPA SW846-8260B	05/14/2013 08:59	05/14/2013 20:49	SS
96-18-4	1,2,3-Trichloropropane	ND		ug/kg dry	2.1	4.2	1	EPA SW846-8260B	05/14/2013 08:59	05/14/2013 20:49	SS
120-82-1	1,2,4-Trichlorobenzene	ND		ug/kg dry	2.1	4.2	1	EPA SW846-8260B	05/14/2013 08:59	05/14/2013 20:49	SS
95-63-6	1,2,4-Trimethylbenzene	ND		ug/kg dry	2.1	4.2	1	EPA SW846-8260B	05/14/2013 08:59	05/14/2013 20:49	SS
96-12-8	1,2-Dibromo-3-chloropropane	ND		ug/kg dry	2.1	4.2	1	EPA SW846-8260B	05/14/2013 08:59	05/14/2013 20:49	SS
106-93-4	1,2-Dibromoethane	ND		ug/kg dry	2.1	4.2	1	EPA SW846-8260B	05/14/2013 08:59	05/14/2013 20:49	SS
95-50-1	1,2-Dichlorobenzene	ND		ug/kg dry	2.1	4.2	1	EPA SW846-8260B	05/14/2013 08:59	05/14/2013 20:49	SS
107-06-2	1,2-Dichloroethane	ND		ug/kg dry	2.1	4.2	1	EPA SW846-8260B	05/14/2013 08:59	05/14/2013 20:49	SS
78-87-5	1,2-Dichloropropane	ND		ug/kg dry	2.1	4.2	1	EPA SW846-8260B	05/14/2013 08:59	05/14/2013 20:49	SS
108-67-8	1,3,5-Trimethylbenzene	ND		ug/kg dry	2.1	4.2	1	EPA SW846-8260B	05/14/2013 08:59	05/14/2013 20:49	SS
541-73-1	1,3-Dichlorobenzene	ND		ug/kg dry	2.1	4.2	1	EPA SW846-8260B	05/14/2013 08:59	05/14/2013 20:49	SS
142-28-9	1,3-Dichloropropane	ND		ug/kg dry	2.1	4.2	1	EPA SW846-8260B	05/14/2013 08:59	05/14/2013 20:49	SS
106-46-7	1,4-Dichlorobenzene	ND		ug/kg dry	2.1	4.2	1	EPA SW846-8260B	05/14/2013 08:59	05/14/2013 20:49	SS
123-91-1	1,4-Dioxane	ND		ug/kg dry	42	84	1	EPA SW846-8260B	05/14/2013 08:59	05/14/2013 20:49	SS
594-20-7	2,2-Dichloropropane	ND		ug/kg dry	2.1	4.2	1	EPA SW846-8260B	05/14/2013 08:59	05/14/2013 20:49	SS
78-93-3	2-Butanone	**6.7**		ug/kg dry	2.1	4.2	1	EPA SW846-8260B	05/14/2013 08:59	05/14/2013 20:49	SS
95-49-8	2-Chlorotoluene	ND		ug/kg dry	2.1	4.2	1	EPA SW846-8260B	05/14/2013 08:59	05/14/2013 20:49	SS
106-43-4	4-Chlorotoluene	ND		ug/kg dry	2.1	4.2	1	EPA SW846-8260B	05/14/2013 08:59	05/14/2013 20:49	SS
67-64-1	Acetone	**20**		ug/kg dry	2.1	8.4	1	EPA SW846-8260B	05/14/2013 08:59	05/14/2013 20:49	SS
71-43-2	Benzene	ND		ug/kg dry	2.1	4.2	1	EPA SW846-8260B	05/14/2013 08:59	05/14/2013 20:49	SS
108-86-1	Bromobenzene	ND		ug/kg dry	2.1	4.2	1	EPA SW846-8260B	05/14/2013 08:59	05/14/2013 20:49	SS
74-97-5	Bromochloromethane	ND		ug/kg dry	2.1	4.2	1	EPA SW846-8260B	05/14/2013 08:59	05/14/2013 20:49	SS
75-27-4	Bromodichloromethane	ND		ug/kg dry	2.1	4.2	1	EPA SW846-8260B	05/14/2013 08:59	05/14/2013 20:49	SS
75-25-2	Bromoform	ND		ug/kg dry	2.1	4.2	1	EPA SW846-8260B	05/14/2013 08:59	05/14/2013 20:49	SS

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Sample Information

Client Sample ID: B2 Grab 10-12 **York Sample ID:** 13E0447-01

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
13E0447	183893A	Soil	May 10, 2013 9:00 am	05/10/2013

Volatile Organics, 8260 List **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
74-83-9	Bromomethane	ND		ug/kg dry	2.1	4.2	1	EPA SW846-8260B	05/14/2013 08:59	05/14/2013 20:49	SS
56-23-5	Carbon tetrachloride	ND		ug/kg dry	2.1	4.2	1	EPA SW846-8260B	05/14/2013 08:59	05/14/2013 20:49	SS
108-90-7	Chlorobenzene	ND		ug/kg dry	2.1	4.2	1	EPA SW846-8260B	05/14/2013 08:59	05/14/2013 20:49	SS
75-00-3	Chloroethane	ND		ug/kg dry	2.1	4.2	1	EPA SW846-8260B	05/14/2013 08:59	05/14/2013 20:49	SS
67-66-3	Chloroform	ND		ug/kg dry	2.1	4.2	1	EPA SW846-8260B	05/14/2013 08:59	05/14/2013 20:49	SS
74-87-3	Chloromethane	ND		ug/kg dry	2.1	4.2	1	EPA SW846-8260B	05/14/2013 08:59	05/14/2013 20:49	SS
156-59-2	cis-1,2-Dichloroethylene	ND		ug/kg dry	2.1	4.2	1	EPA SW846-8260B	05/14/2013 08:59	05/14/2013 20:49	SS
10061-01-5	cis-1,3-Dichloropropylene	ND		ug/kg dry	2.1	4.2	1	EPA SW846-8260B	05/14/2013 08:59	05/14/2013 20:49	SS
124-48-1	Dibromochloromethane	ND		ug/kg dry	2.1	4.2	1	EPA SW846-8260B	05/14/2013 08:59	05/14/2013 20:49	SS
74-95-3	Dibromomethane	ND		ug/kg dry	2.1	4.2	1	EPA SW846-8260B	05/14/2013 08:59	05/14/2013 20:49	SS
71-8	Dichlorodifluoromethane	ND		ug/kg dry	2.1	4.2	1	EPA SW846-8260B	05/14/2013 08:59	05/14/2013 20:49	SS
-41-4	Ethyl Benzene	ND		ug/kg dry	2.1	4.2	1	EPA SW846-8260B	05/14/2013 08:59	05/14/2013 20:49	SS
87-68-3	Hexachlorobutadiene	ND		ug/kg dry	2.1	4.2	1	EPA SW846-8260B	05/14/2013 08:59	05/14/2013 20:49	SS
98-82-8	Isopropylbenzene	ND		ug/kg dry	2.1	4.2	1	EPA SW846-8260B	05/14/2013 08:59	05/14/2013 20:49	SS
1634-04-4	Methyl tert-butyl ether (MTBE)	ND		ug/kg dry	2.1	4.2	1	EPA SW846-8260B	05/14/2013 08:59	05/14/2013 20:49	SS
75-09-2	Methylene chloride	ND		ug/kg dry	2.1	8.4	1	EPA SW846-8260B	05/14/2013 08:59	05/14/2013 20:49	SS
91-20-3	Naphthalene	ND		ug/kg dry	2.1	8.4	1	EPA SW846-8260B	05/14/2013 08:59	05/14/2013 20:49	SS
104-51-8	n-Butylbenzene	ND		ug/kg dry	2.1	4.2	1	EPA SW846-8260B	05/14/2013 08:59	05/14/2013 20:49	SS
103-65-1	n-Propylbenzene	ND		ug/kg dry	2.1	4.2	1	EPA SW846-8260B	05/14/2013 08:59	05/14/2013 20:49	SS
95-47-6	o-Xylene	ND		ug/kg dry	2.1	4.2	1	EPA SW846-8260B	05/14/2013 08:59	05/14/2013 20:49	SS
179601-23-1	p- & m- Xylenes	ND		ug/kg dry	4.2	8.4	1	EPA SW846-8260B	05/14/2013 08:59	05/14/2013 20:49	SS
99-87-6	p-Isopropyltoluene	ND		ug/kg dry	2.1	4.2	1	EPA SW846-8260B	05/14/2013 08:59	05/14/2013 20:49	SS
135-98-8	sec-Butylbenzene	ND		ug/kg dry	2.1	4.2	1	EPA SW846-8260B	05/14/2013 08:59	05/14/2013 20:49	SS
100-42-5	Styrene	ND		ug/kg dry	2.1	4.2	1	EPA SW846-8260B	05/14/2013 08:59	05/14/2013 20:49	SS
98-06-6	tert-Butylbenzene	ND		ug/kg dry	2.1	4.2	1	EPA SW846-8260B	05/14/2013 08:59	05/14/2013 20:49	SS
127-18-4	Tetrachloroethylene	ND		ug/kg dry	2.1	4.2	1	EPA SW846-8260B	05/14/2013 08:59	05/14/2013 20:49	SS
108-88-3	Toluene	ND		ug/kg dry	2.1	4.2	1	EPA SW846-8260B	05/14/2013 08:59	05/14/2013 20:49	SS
156-60-5	trans-1,2-Dichloroethylene	ND		ug/kg dry	2.1	4.2	1	EPA SW846-8260B	05/14/2013 08:59	05/14/2013 20:49	SS
10061-02-6	trans-1,3-Dichloropropylene	ND		ug/kg dry	2.1	4.2	1	EPA SW846-8260B	05/14/2013 08:59	05/14/2013 20:49	SS
79-01-6	Trichloroethylene	ND		ug/kg dry	2.1	4.2	1	EPA SW846-8260B	05/14/2013 08:59	05/14/2013 20:49	SS
)-4	Trichlorofluoromethane	ND		ug/kg dry	2.1	4.2	1	EPA SW846-8260B	05/14/2013 08:59	05/14/2013 20:49	SS
75-01-4	Vinyl Chloride	ND		ug/kg dry	2.1	4.2	1	EPA SW846-8260B	05/14/2013 08:59	05/14/2013 20:49	SS

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Sample Information

Client Sample ID: B2 Grab 10-12 **York Sample ID:** 13E0447-01

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
13E0447	183893A	Soil	May 10, 2013 9:00 am	05/10/2013

Volatile Organics, 8260 List

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 5035A

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
1330-20-7	Xylenes, Total	ND		ug/kg dry	6.3	13	1	EPA SW846-8260B	05/14/2013 08:59	05/14/2013 20:49	SS
108-05-4	Vinyl acetate	ND		ug/kg dry	2.1	4.2	1	EPA SW846-8260B	05/14/2013 08:59	05/14/2013 20:49	SS

	Surrogate Recoveries	Result	Acceptance Range
17060-07-0	*Surrogate: 1,2-Dichloroethane-d4*	*107 %*	*73-130*
460-00-4	*Surrogate: p-Bromofluorobenzene*	*100 %*	*72-127*
2037-26-5	*Surrogate: Toluene-d8*	*97.9 %*	*84-117*

Total Solids

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: % Solids Prep

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
solids	% Solids	**75.4**		%	0.100	0.100	1	SM 2540G	05/13/2013 16:26	05/14/2013 11:53	AMC

Sample Information

Client Sample ID: B2 0-22 Comp **York Sample ID:** 13E0447-02

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
13E0447	183893A	Soil	May 10, 2013 9:30 am	05/10/2013

Semi-Volatiles, 8270 Target List

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550B

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
83-32-9	Acenaphthene	ND		ug/kg dry	566	1560	5	EPA SW-846 8270C	05/13/2013 14:43	05/14/2013 21:15	SR
208-96-8	Acenaphthylene	ND		ug/kg dry	751	1560	5	EPA SW-846 8270C	05/13/2013 14:43	05/14/2013 21:15	SR
62-53-3	Aniline	ND		ug/kg dry	895	1560	5	EPA SW-846 8270C	05/13/2013 14:43	05/14/2013 21:15	SR
120-12-7	Anthracene	**904**	J	ug/kg dry	854	1560	5	EPA SW-846 8270C	05/13/2013 14:43	05/14/2013 21:15	SR
56-55-3	Benzo(a)anthracene	**4220**		ug/kg dry	585	1560	5	EPA SW-846 8270C	05/13/2013 14:43	05/14/2013 21:15	SR
50-32-8	Benzo(a)pyrene	**4140**		ug/kg dry	619	1560	5	EPA SW-846 8270C	05/13/2013 14:43	05/14/2013 21:15	SR
205-99-2	Benzo(b)fluoranthene	**3240**		ug/kg dry	1310	1560	5	EPA SW-846 8270C	05/13/2013 14:43	05/14/2013 21:15	SR
191-24-2	Benzo(g,h,i)perylene	**2290**		ug/kg dry	519	1560	5	EPA SW-846 8270C	05/13/2013 14:43	05/14/2013 21:15	SR
100-51-6	Benzyl alcohol	ND		ug/kg dry	1560	1560	5	EPA SW-846 8270C	05/13/2013 14:43	05/14/2013 21:15	SR
207-08-9	Benzo(k)fluoranthene	**3500**		ug/kg dry	1560	1560	5	EPA SW-846 8270C	05/13/2013 14:43	05/14/2013 21:15	SR
85-68-7	Benzyl butyl phthalate	ND		ug/kg dry	863	1560	5	EPA SW-846 8270C	05/13/2013 14:43	05/14/2013 21:15	SR
101-55-3	4-Bromophenyl phenyl ether	ND		ug/kg dry	754	1560	5	EPA SW-846 8270C	05/13/2013 14:43	05/14/2013 21:15	SR
59-50-7	4-Chloro-3-methylphenol	ND		ug/kg dry	1050	1560	5	EPA SW-846 8270C	05/13/2013 14:43	05/14/2013 21:15	SR
106-47-8	4-Chloroaniline	ND		ug/kg dry	407	1560	5	EPA SW-846 8270C	05/13/2013 14:43	05/14/2013 21:15	SR
111-91-1	Bis(2-chloroethoxy)methane	ND		ug/kg dry	538	1560	5	EPA SW-846 8270C	05/13/2013 14:43	05/14/2013 21:15	SR

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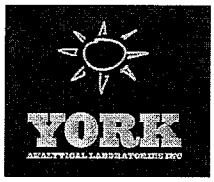

Sample Information

Client Sample ID: B2 0-22 Comp **York Sample ID:** 13E0447-02

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
13E0447	183893A	Soil	May 10, 2013 9:30 am	05/10/2013

Semi-Volatiles, 8270 Target List **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3550B

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
111-44-4	Bis(2-chloroethyl)ether	ND		ug/kg dry	798	1560	5	EPA SW-846 8270C	05/13/2013 14:43	05/14/2013 21:15	SR
108-60-1	Bis(2-chloroisopropyl)ether	ND		ug/kg dry	550	1560	5	EPA SW-846 8270C	05/13/2013 14:43	05/14/2013 21:15	SR
117-81-7	Bis(2-ethylhexyl)phthalate	ND		ug/kg dry	1080	1560	5	EPA SW-846 8270C	05/13/2013 14:43	05/14/2013 21:15	SR
91-58-7	2-Chloronaphthalene	ND		ug/kg dry	845	1560	5	EPA SW-846 8270C	05/13/2013 14:43	05/14/2013 21:15	SR
95-57-8	2-Chlorophenol	ND		ug/kg dry	516	1560	5	EPA SW-846 8270C	05/13/2013 14:43	05/14/2013 21:15	SR
7005-72-3	4-Chlorophenyl phenyl ether	ND		ug/kg dry	916	1560	5	EPA SW-846 8270C	05/13/2013 14:43	05/14/2013 21:15	SR
218-01-9	Chrysene	**4330**		ug/kg dry	719	1560	5	EPA SW-846 8270C	05/13/2013 14:43	05/14/2013 21:15	SR
53-70-3	Dibenzo(a,h)anthracene	**1150**	J	ug/kg dry	629	1560	5	EPA SW-846 8270C	05/13/2013 14:43	05/14/2013 21:15	SR
132-64-9	Dibenzofuran	ND		ug/kg dry	729	1560	5	EPA SW-846 8270C	05/13/2013 14:43	05/14/2013 21:15	SR
84-74-2	Di-n-butyl phthalate	ND		ug/kg dry	635	1560	5	EPA SW-846 8270C	05/13/2013 14:43	05/14/2013 21:15	SR
95-50-1	1,2-Dichlorobenzene	ND		ug/kg dry	1020	1560	5	EPA SW-846 8270C	05/13/2013 14:43	05/14/2013 21:15	SR
46-7	1,4-Dichlorobenzene	ND		ug/kg dry	963	1560	5	EPA SW-846 8270C	05/13/2013 14:43	05/14/2013 21:15	SR
541-73-1	1,3-Dichlorobenzene	ND		ug/kg dry	494	1560	5	EPA SW-846 8270C	05/13/2013 14:43	05/14/2013 21:15	SR
91-94-1	3,3'-Dichlorobenzidine	ND		ug/kg dry	819	1560	5	EPA SW-846 8270C	05/13/2013 14:43	05/14/2013 21:15	SR
120-83-2	2,4-Dichlorophenol	ND		ug/kg dry	1280	1560	5	EPA SW-846 8270C	05/13/2013 14:43	05/14/2013 21:15	SR
84-66-2	Diethyl phthalate	ND		ug/kg dry	982	1560	5	EPA SW-846 8270C	05/13/2013 14:43	05/14/2013 21:15	SR
105-67-9	2,4-Dimethylphenol	ND		ug/kg dry	1090	1560	5	EPA SW-846 8270C	05/13/2013 14:43	05/14/2013 21:15	SR
131-11-3	Dimethyl phthalate	ND		ug/kg dry	698	1560	5	EPA SW-846 8270C	05/13/2013 14:43	05/14/2013 21:15	SR
88-74-4	2-Nitroaniline	ND		ug/kg dry	1360	1560	5	EPA SW-846 8270C	05/13/2013 14:43	05/14/2013 21:15	SR
534-52-1	4,6-Dinitro-2-methylphenol	ND		ug/kg dry	1970	3130	5	EPA SW-846 8270C	05/13/2013 14:43	05/14/2013 21:15	SR
51-28-5	2,4-Dinitrophenol	ND		ug/kg dry	1310	3130	5	EPA SW-846 8270C	05/13/2013 14:43	05/14/2013 21:15	SR
606-20-2	2,6-Dinitrotoluene	ND		ug/kg dry	804	1560	5	EPA SW-846 8270C	05/13/2013 14:43	05/14/2013 21:15	SR
121-14-2	2,4-Dinitrotoluene	ND		ug/kg dry	691	1560	5	EPA SW-846 8270C	05/13/2013 14:43	05/14/2013 21:15	SR
117-84-0	Di-n-octyl phthalate	ND		ug/kg dry	1560	1560	5	EPA SW-846 8270C	05/13/2013 14:43	05/14/2013 21:15	SR
206-44-0	Fluoranthene	**5690**		ug/kg dry	916	1560	5	EPA SW-846 8270C	05/13/2013 14:43	05/14/2013 21:15	SR
86-73-7	Fluorene	ND		ug/kg dry	751	1560	5	EPA SW-846 8270C	05/13/2013 14:43	05/14/2013 21:15	SR
118-74-1	Hexachlorobenzene	ND		ug/kg dry	923	1560	5	EPA SW-846 8270C	05/13/2013 14:43	05/14/2013 21:15	SR
87-68-3	Hexachlorobutadiene	ND		ug/kg dry	529	1560	5	EPA SW-846 8270C	05/13/2013 14:43	05/14/2013 21:15	SR
77-47-4	Hexachlorocyclopentadiene	ND		ug/kg dry	1160	1560	5	EPA SW-846 8270C	05/13/2013 14:43	05/14/2013 21:15	SR
67-72-1	Hexachloroethane	ND		ug/kg dry	447	1560	5	EPA SW-846 8270C	05/13/2013 14:43	05/14/2013 21:15	SR
9-5	Indeno(1,2,3-cd)pyrene	**2320**		ug/kg dry	713	1560	5	EPA SW-846 8270C	05/13/2013 14:43	05/14/2013 21:15	SR
78-59-1	Isophorone	ND		ug/kg dry	538	1560	5	EPA SW-846 8270C	05/13/2013 14:43	05/14/2013 21:15	SR

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Sample Information

Client Sample ID: B2 0-22 Comp **York Sample ID:** 13E0447-02

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
13E0447	183893A	Soil	May 10, 2013 9:30 am	05/10/2013

Semi-Volatiles, 8270 Target List **Log-in Notes:** **Sample Notes:**

Sample Prepared by Method: EPA 3550B

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
91-57-6	2-Methylnaphthalene	ND		ug/kg dry	1200	1560	5	EPA SW-846 8270C	05/13/2013 14:43	05/14/2013 21:15	SR
95-48-7	2-Methylphenol	ND		ug/kg dry	594	1560	5	EPA SW-846 8270C	05/13/2013 14:43	05/14/2013 21:15	SR
65794-96-9	3- & 4-Methylphenols	ND		ug/kg dry	679	1560	5	EPA SW-846 8270C	05/13/2013 14:43	05/14/2013 21:15	SR
91-20-3	Naphthalene	ND		ug/kg dry	385	1560	5	EPA SW-846 8270C	05/13/2013 14:43	05/14/2013 21:15	SR
99-09-2	3-Nitroaniline	ND		ug/kg dry	1550	1560	5	EPA SW-846 8270C	05/13/2013 14:43	05/14/2013 21:15	SR
100-01-6	4-Nitroaniline	ND		ug/kg dry	647	1560	5	EPA SW-846 8270C	05/13/2013 14:43	05/14/2013 21:15	SR
98-95-3	Nitrobenzene	ND		ug/kg dry	460	1560	5	EPA SW-846 8270C	05/13/2013 14:43	05/14/2013 21:15	SR
100-02-7	4-Nitrophenol	ND		ug/kg dry	588	1560	5	EPA SW-846 8270C	05/13/2013 14:43	05/14/2013 21:15	SR
88-75-5	2-Nitrophenol	ND		ug/kg dry	425	1560	5	EPA SW-846 8270C	05/13/2013 14:43	05/14/2013 21:15	SR
621-64-7	N-nitroso-di-n-propylamine	ND		ug/kg dry	522	1560	5	EPA SW-846 8270C	05/13/2013 14:43	05/14/2013 21:15	SR
62-75-9	N-Nitrosodimethylamine	ND		ug/kg dry	641	1560	5	EPA SW-846 8270C	05/13/2013 14:43	05/14/2013 21:15	SR
86-30-6	N-Nitrosodiphenylamine	ND		ug/kg dry	707	1560	5	EPA SW-846 8270C	05/13/2013 14:43	05/14/2013 21:15	SR
87-86-5	Pentachlorophenol	ND		ug/kg dry	1180	1560	5	EPA SW-846 8270C	05/13/2013 14:43	05/14/2013 21:15	SR
85-01-8	Phenanthrene	**3940**		ug/kg dry	816	1560	5	EPA SW-846 8270C	05/13/2013 14:43	05/14/2013 21:15	SR
108-95-2	Phenol	ND		ug/kg dry	676	1560	5	EPA SW-846 8270C	05/13/2013 14:43	05/14/2013 21:15	SR
129-00-0	Pyrene	**6960**		ug/kg dry	638	1560	5	EPA SW-846 8270C	05/13/2013 14:43	05/14/2013 21:15	SR
110-86-1	Pyridine	ND		ug/kg dry	1100	1560	5	EPA SW-846 8270C	05/13/2013 14:43	05/14/2013 21:15	SR
120-82-1	1,2,4-Trichlorobenzene	ND		ug/kg dry	566	1560	5	EPA SW-846 8270C	05/13/2013 14:43	05/14/2013 21:15	SR
95-95-4	2,4,5-Trichlorophenol	ND		ug/kg dry	1210	1560	5	EPA SW-846 8270C	05/13/2013 14:43	05/14/2013 21:15	SR
88-06-2	2,4,6-Trichlorophenol	ND		ug/kg dry	794	1560	5	EPA SW-846 8270C	05/13/2013 14:43	05/14/2013 21:15	SR

	Surrogate Recoveries	Result		Acceptance Range
5175-83-7	*Surrogate: 2,4,6-Tribromophenol*	*43.5 %*		*15-110*
321-60-8	*Surrogate: 2-Fluorobiphenyl*	*40.9 %*		*30-130*
367-12-4	*Surrogate: 2-Fluorophenol*	*17.4 %*		*15-110*
4165-60-0	*Surrogate: Nitrobenzene-d5*	*21.5 %*	*S-06*	*30-130*
4165-62-2	*Surrogate: Phenol-d5*	*37.7 %*		*15-110*
1718-51-0	*Surrogate: Terphenyl-d14*	*62.1 %*		*30-130*

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Sample Information

Client Sample ID: B2 0-22 Comp

York Sample ID: 13E0447-02

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
13E0447	183893A	Soil	May 10, 2013 9:30 am	05/10/2013

Pesticides/PCBs, EPA 8081/8082 List

Log-in Notes:

Sample Notes:

Sample Prepared by Method: EPA 3545A

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
8001-35-2	Toxaphene	ND		ug/kg dry	157	157	5	EPA SW 846-8081/8082	05/14/2013 14:50	05/15/2013 11:54	JW
72-43-5	Methoxychlor	ND		ug/kg dry	15.5	15.5	5	EPA SW 846-8081/8082	05/14/2013 14:50	05/15/2013 11:54	JW
1024-57-3	Heptachlor epoxide	ND		ug/kg dry	3.10	3.10	5	EPA SW 846-8081/8082	05/14/2013 14:50	05/15/2013 11:54	JW
76-44-8	Heptachlor	ND		ug/kg dry	3.10	3.10	5	EPA SW 846-8081/8082	05/14/2013 14:50	05/15/2013 11:54	JW
58-89-9	gamma-BHC (Lindane)	ND		ug/kg dry	3.10	3.10	5	EPA SW 846-8081/8082	05/14/2013 14:50	05/15/2013 11:54	JW
53494-70-5	Endrin ketone	ND		ug/kg dry	3.10	3.10	5	EPA SW 846-8081/8082	05/14/2013 14:50	05/15/2013 11:54	JW
7421-93-4	Endrin aldehyde	ND		ug/kg dry	3.10	3.10	5	EPA SW 846-8081/8082	05/14/2013 14:50	05/15/2013 11:54	JW
72-20-8	Endrin	ND		ug/kg dry	3.10	3.10	5	EPA SW 846-8081/8082	05/14/2013 14:50	05/15/2013 11:54	JW
1031-07-8	Endosulfan sulfate	ND		ug/kg dry	3.10	3.10	5	EPA SW 846-8081/8082	05/14/2013 14:50	05/15/2013 11:54	JW
33213-65-9	Endosulfan II	ND		ug/kg dry	3.10	3.10	5	EPA SW 846-8081/8082	05/14/2013 14:50	05/15/2013 11:54	JW
[illegible]-98-8	Endosulfan I	ND		ug/kg dry	3.10	3.10	5	EPA SW 846-8081/8082	05/14/2013 14:50	05/15/2013 11:54	JW
[illegible]7-1	Dieldrin	ND		ug/kg dry	3.10	3.10	5	EPA SW 846-8081/8082	05/14/2013 14:50	05/15/2013 11:54	JW
319-86-8	delta-BHC	ND		ug/kg dry	3.10	3.10	5	EPA SW 846-8081/8082	05/14/2013 14:50	05/15/2013 11:54	JW
57-74-9	Chlordane, total	ND		ug/kg dry	12.4	12.4	5	EPA SW 846-8081/8082	05/14/2013 14:50	05/15/2013 11:54	JW
319-85-7	beta-BHC	ND		ug/kg dry	3.10	3.10	5	EPA SW 846-8081/8082	05/14/2013 14:50	05/15/2013 11:54	JW
319-84-6	alpha-BHC	ND		ug/kg dry	3.10	3.10	5	EPA SW 846-8081/8082	05/14/2013 14:50	05/15/2013 11:54	JW
309-00-2	Aldrin	ND		ug/kg dry	3.10	3.10	5	EPA SW 846-8081/8082	05/14/2013 14:50	05/15/2013 11:54	JW
50-29-3	4,4'-DDT	**5.68**		ug/kg dry	3.10	3.10	5	EPA SW 846-8081/8082	05/14/2013 14:50	05/15/2013 11:54	JW
72-55-9	4,4'-DDE	ND		ug/kg dry	3.10	3.10	5	EPA SW 846-8081/8082	05/14/2013 14:50	05/15/2013 11:54	JW
72-54-8	4,4'-DDD	ND		ug/kg dry	3.10	3.10	5	EPA SW 846-8081/8082	05/14/2013 14:50	05/15/2013 11:54	JW
11096-82-5	Aroclor 1260	ND		ug/kg dry	31.9	31.9	1	EPA SW 846-8081/8082	05/14/2013 14:50	05/15/2013 10:31	JW
11097-69-1	Aroclor 1254	ND		ug/kg dry	31.9	31.9	1	EPA SW 846-8081/8082	05/14/2013 14:50	05/15/2013 10:31	JW
12672-29-6	Aroclor 1248	ND		ug/kg dry	31.9	31.9	1	EPA SW 846-8081/8082	05/14/2013 14:50	05/15/2013 10:31	JW
53469-21-9	Aroclor 1242	ND		ug/kg dry	31.9	31.9	1	EPA SW 846-8081/8082	05/14/2013 14:50	05/15/2013 10:31	JW
11141-16-5	Aroclor 1232	ND		ug/kg dry	31.9	31.9	1	EPA SW 846-8081/8082	05/14/2013 14:50	05/15/2013 10:31	JW
11104-28-2	Aroclor 1221	ND		ug/kg dry	31.9	31.9	1	EPA SW 846-8081/8082	05/14/2013 14:50	05/15/2013 10:31	JW
12674-11-2	Aroclor 1016	ND		ug/kg dry	31.9	31.9	1	EPA SW 846-8081/8082	05/14/2013 14:50	05/15/2013 10:31	JW
1336-36-3	Total PCBs	ND		ug/kg dry	12.8	31.9	1	EPA SW 846-8081/8082	05/14/2013 14:50	05/15/2013 10:31	JW

	Surrogate Recoveries	Result	Acceptance Range
877-09-8	*Surrogate: Tetrachloro-m-xylene*	*102 %*	*30-150*
[illegible]-24-3	*Surrogate: Decachlorobiphenyl*	*84.8 %*	*30-150*

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Sample Information

Client Sample ID: B2 0-22 Comp **York Sample ID:** 13E0447-02

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
13E0447	183893A	Soil	May 10, 2013 9:30 am	05/10/2013

Herbicides, Target List

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3550B/8151A

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
94-75-7	2,4-D	ND		ug/kg dry	25.0	25.0	1	EPA SW846-8151B	05/14/2013 07:07	05/14/2013 17:51	JW
93-72-1	2,4,5-TP (Silvex)	ND		ug/kg dry	25.0	25.0	1	EPA SW846-8151B	05/14/2013 07:07	05/14/2013 17:51	JW
93-76-5	2,4,5-T	ND		ug/kg dry	25.0	25.0	1	EPA SW846-8151B	05/14/2013 07:07	05/14/2013 17:51	JW

	Surrogate Recoveries	Result	Acceptance Range
19719-28-9	*Surrogate: 2,4-Dichlorophenylacetic acia*	*127 %*	*28.3-149*

Metals, Target Analyte

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA 3050B

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7429-90-5	Aluminum	**6330**		mg/kg dry	1.28	2.50	1	EPA SW846-6010B	05/13/2013 16:49	05/14/2013 03:38	MW
7440-36-0	Antimony	**31.1**		mg/kg dry	0.275	0.626	1	EPA SW846-6010B	05/13/2013 16:49	05/14/2013 03:38	MW
7440-38-2	Arsenic	**26.9**		mg/kg dry	0.425	1.25	1	EPA SW846-6010B	05/13/2013 16:49	05/14/2013 03:38	MW
7440-39-3	Barium	**1080**		mg/kg dry	0.163	0.626	1	EPA SW846-6010B	05/13/2013 16:49	05/14/2013 03:38	MW
7440-41-7	Beryllium	ND		mg/kg dry	0.125	0.125	1	EPA SW846-6010B	05/13/2013 16:49	05/14/2013 03:38	MW
7440-43-9	Cadmium	**2.52**		mg/kg dry	0.125	0.626	1	EPA SW846-6010B	05/13/2013 16:49	05/14/2013 03:38	MW
7440-70-2	Calcium	**11700**		mg/kg dry	0.050	6.26	1	EPA SW846-6010B	05/13/2013 16:49	05/14/2013 03:38	MW
7440-47-3	Chromium	**46.0**		mg/kg dry	0.150	0.626	1	EPA SW846-6010B	05/13/2013 16:49	05/14/2013 03:38	MW
7440-48-4	Cobalt	**5.82**		mg/kg dry	0.100	0.626	1	EPA SW846-6010B	05/13/2013 16:49	05/14/2013 03:38	MW
7440-50-8	Copper	**371**		mg/kg dry	0.150	0.626	1	EPA SW846-6010B	05/13/2013 16:49	05/14/2013 03:38	MW
7439-89-6	Iron	**38200**		mg/kg dry	4.07	12.5	5	EPA SW846-6010B	05/13/2013 16:49	05/14/2013 03:38	MW
7439-92-1	Lead	**3420**		mg/kg dry	0.213	0.375	1	EPA SW846-6010B	05/13/2013 16:49	05/14/2013 03:38	MW
7439-95-4	Magnesium	**2900**		mg/kg dry	0.563	6.26	1	EPA SW846-6010B	05/13/2013 16:49	05/14/2013 03:38	MW
7439-96-5	Manganese	**487**		mg/kg dry	0.138	1.25	1	EPA SW846-6010B	05/13/2013 16:49	05/14/2013 03:38	MW
7440-02-0	Nickel	**26.9**		mg/kg dry	0.163	0.626	1	EPA SW846-6010B	05/13/2013 16:49	05/14/2013 03:38	MW
7440-09-7	Potassium	**483**		mg/kg dry	4.23	12.5	1	EPA SW846-6010B	05/13/2013 16:49	05/14/2013 03:38	MW
7782-49-2	Selenium	**5.65**		mg/kg dry	0.626	0.626	1	EPA SW846-6010B	05/13/2013 16:49	05/14/2013 03:38	MW
7440-22-4	Silver	**1.74**		mg/kg dry	0.125	0.626	1	EPA SW846-6010B	05/13/2013 16:49	05/14/2013 03:38	MW
7440-23-5	Sodium	**617**		mg/kg dry	6.59	12.5	1	EPA SW846-6010B	05/13/2013 16:49	05/14/2013 03:38	MW
7440-28-0	Thallium	ND		mg/kg dry	0.400	0.626	1	EPA SW846-6010B	05/13/2013 16:49	05/14/2013 03:38	MW
7440-62-2	Vanadium	**19.9**		mg/kg dry	0.138	0.626	1	EPA SW846-6010B	05/13/2013 16:49	05/14/2013 03:38	MW
7440-66-6	Zinc	**1440**		mg/kg dry	0.563	3.13	5	EPA SW846-6010B	05/13/2013 16:49	05/14/2013 03:38	MW

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Sample Information

Client Sample ID: B2 0-22 Comp **York Sample ID:** 13E0447-02

York Project (SDG) No.	Client Project ID	Matrix	Collection Date/Time	Date Received
13E0447	183893A	Soil	May 10, 2013 9:30 am	05/10/2013

Mercury by 7470/7471

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: EPA SW846-7471

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
7439-97-6	Mercury	ND		mg/kg dry	0.0413	0.0413	1	EPA SW846-7471	05/13/2013 10:27	05/14/2013 10:44	AA

Total Solids

Log-in Notes: **Sample Notes:**

Sample Prepared by Method: % Solids Prep

CAS No.	Parameter	Result	Flag	Units	MDL	RL	Dilution	Reference Method	Date/Time Prepared	Date/Time Analyzed	Analyst
solids	% Solids	**79.9**		%	0.100	0.100	1	SM 2540G	05/13/2013 16:26	05/14/2013 11:53	AMC

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Analytical Batch Summary

Batch ID: BE30529 **Preparation Method:** EPA SW846-7471 **Prepared By:** AA

YORK Sample ID	Client Sample ID	Preparation Date
13E0447-02	B2 0-22 Comp	05/13/13
BE30529-BLK1	Blank	05/13/13
BE30529-BS1	LCS	05/13/13

Batch ID: BE30552 **Preparation Method:** EPA 3550B **Prepared By:** DB

YORK Sample ID	Client Sample ID	Preparation Date
13E0447-02	B2 0-22 Comp	05/13/13
BE30552-BLK1	Blank	05/13/13
BE30552-BS1	LCS	05/13/13
BE30552-BSD1	LCS Dup	05/13/13

Batch ID: BE30567 **Preparation Method:** % Solids Prep **Prepared By:** AMC

YORK Sample ID	Client Sample ID	Preparation Date
13E0447-01	B2 Grab 10-12	05/13/13
13E0447-02	B2 0-22 Comp	05/13/13

Batch ID: BE30572 **Preparation Method:** EPA 3050B **Prepared By:** MW

YORK Sample ID	Client Sample ID	Preparation Date
13E0447-02	B2 0-22 Comp	05/13/13
BE30572-BLK1	Blank	05/13/13
BE30572-SRM1	Reference	05/13/13

Batch ID: BE30574 **Preparation Method:** EPA 3550B/8151A **Prepared By:** CM

YORK Sample ID	Client Sample ID	Preparation Date
13E0447-02	B2 0-22 Comp	05/14/13
BE30574-BLK1	Blank	05/14/13
BE30574-BS1	LCS	05/14/13
BE30574-BSD1	LCS Dup	05/14/13

Batch ID: BE30623 **Preparation Method:** EPA 5035A **Prepared By:** KH

YORK Sample ID	Client Sample ID	Preparation Date
13E0447-01	B2 Grab 10-12	05/14/13
BE30623-BLK1	Blank	05/14/13
BE30623-BS1	LCS	05/14/13
BE30623-BSD1	LCS Dup	05/14/13

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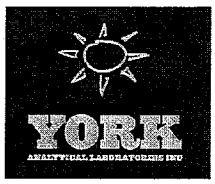

Batch ID: BE30630 **Preparation Method:** EPA 3545A **Prepared By:** DB

YORK Sample ID	Client Sample ID	Preparation Date
13E0447-02	B2 0-22 Comp	05/14/13
BE30630-BLK1	Blank	05/14/13
BE30630-BS1	LCS	05/14/13
BE30630-BS2	LCS	05/14/13
BE30630-BSD1	LCS Dup	05/14/13

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Volatile Organic Compounds by EPA SW846-8260B - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BE30623 - EPA 5035A											
Blank (BE30623-BLK1)									Prepared & Analyzed: 05/14/2013		
1,1,1,2-Tetrachloroethane	ND	5.0	ug/kg wet								
1,1,1-Trichloroethane	ND	5.0	"								
1,1,2,2-Tetrachloroethane	ND	5.0	"								
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	5.0	"								
1,1,2-Trichloroethane	ND	5.0	"								
1,1-Dichloroethane	ND	5.0	"								
1,1-Dichloroethylene	ND	5.0	"								
1,1-Dichloropropylene	ND	5.0	"								
1,2,3-Trichlorobenzene	ND	5.0	"								
1,2,3-Trichloropropane	ND	5.0	"								
1,2,4-Trichlorobenzene	ND	5.0	"								
1,2,4-Trimethylbenzene	ND	5.0	"								
1,2-Dibromo-3-chloropropane	ND	5.0	"								
1,2-Dibromoethane	ND	5.0	"								
1,2-Dichlorobenzene	ND	5.0	"								
1,2-Dichloroethane	ND	5.0	"								
1,2-Dichloropropane	ND	5.0	"								
1,3,5-Trimethylbenzene	ND	5.0	"								
1,3-Dichlorobenzene	ND	5.0	"								
1,3-Dichloropropane	ND	5.0	"								
1,4-Dichlorobenzene	ND	5.0	"								
1,4-Dioxane	ND	100	"								
2,2-Dichloropropane	ND	5.0	"								
2-Butanone	ND	5.0	"								
2-Chlorotoluene	ND	5.0	"								
4-Chlorotoluene	ND	5.0	"								
Acetone	ND	10	"								
Benzene	ND	5.0	"								
Bromobenzene	ND	5.0	"								
Bromochloromethane	ND	5.0	"								
Bromodichloromethane	ND	5.0	"								
Bromoform	ND	5.0	"								
Bromomethane	ND	5.0	"								
Carbon tetrachloride	ND	5.0	"								
Chlorobenzene	ND	5.0	"								
Chloroethane	ND	5.0	"								
Chloroform	ND	5.0	"								
Chloromethane	ND	5.0	"								
cis-1,2-Dichloroethylene	ND	5.0	"								
cis-1,3-Dichloropropylene	ND	5.0	"								
Dibromochloromethane	ND	5.0	"								
Dibromomethane	ND	5.0	"								
Dichlorodifluoromethane	ND	5.0	"								
Ethyl Benzene	ND	5.0	"								
Hexachlorobutadiene	ND	5.0	"								
Isopropylbenzene	ND	5.0	"								
Methyl tert-butyl ether (MTBE)	ND	5.0	"								
Methylene chloride	ND	10	"								
Naphthalene	ND	10	"								
n-Butylbenzene	ND	5.0	"								
n-Propylbenzene	ND	5.0	"								

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Volatile Organic Compounds by EPA SW846-8260B - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BE30623 - EPA 5035A											
Blank (BE30623-BLK1)								Prepared & Analyzed: 05/14/2013			
o-Xylene	ND	5.0	ug/kg wet								
p- & m- Xylenes	ND	10	"								
p-Isopropyltoluene	ND	5.0	"								
sec-Butylbenzene	ND	5.0	"								
Styrene	ND	5.0	"								
tert-Butylbenzene	ND	5.0	"								
Tetrachloroethylene	ND	5.0	"								
Toluene	ND	5.0	"								
trans-1,2-Dichloroethylene	ND	5.0	"								
trans-1,3-Dichloropropylene	ND	5.0	"								
Trichloroethylene	ND	5.0	"								
Trichlorofluoromethane	ND	5.0	"								
Vinyl Chloride	ND	5.0	"								
Xylenes, Total	ND	15	"								
Vinyl acetate	ND	5.0	"								
Surrogate: 1,2-Dichloroethane-d4	*60.4*		*ug/L*	*50.0*		*121*	*73-130*				
Surrogate: p-Bromofluorobenzene	*48.4*		*"*	*50.0*		*96.8*	*72-127*				
Surrogate: Toluene-d8	*39.5*		*"*	*50.0*		*79.0*	*84-117*				
S (BE30623-BS1)								Prepared & Analyzed: 05/14/2013			
.,1,1,2-Tetrachloroethane	51		ug/L	50.0		101	72-132				
1,1,1-Trichloroethane	61		"	50.0		122	77-131				
1,1,2,2-Tetrachloroethane	47		"	50.0		93.8	68-129				
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	59		"	50.0		118	75-143				
1,1,2-Trichloroethane	48		"	50.0		96.4	72-128				
1,1-Dichloroethane	53		"	50.0		106	78-133				
1,1-Dichloroethylene	57		"	50.0		114	71-142				
1,1-Dichloropropylene	52		"	50.0		105	77-124				
1,2,3-Trichlorobenzene	52		"	50.0		104	65-134				
1,2,3-Trichloropropane	48		"	50.0		95.3	65-127				
1,2,4-Trichlorobenzene	54		"	50.0		107	59-133				
1,2,4-Trimethylbenzene	49		"	50.0		98.7	68-128				
1,2-Dibromo-3-chloropropane	45		"	50.0		89.3	58-145				
1,2-Dibromoethane	51		"	50.0		102	73-128				
1,2-Dichlorobenzene	49		"	50.0		98.4	69-126				
1,2-Dichloroethane	57		"	50.0		115	78-131				
1,2-Dichloropropane	50		"	50.0		99.6	72-129				
1,3,5-Trimethylbenzene	50		"	50.0		101	67-125				
1,3-Dichlorobenzene	49		"	50.0		98.8	67-125				
1,3-Dichloropropane	49		"	50.0		98.6	73-126				
1,4-Dichlorobenzene	50		"	50.0		99.5	67-127				
1,4-Dioxane	3.2		"	50.0		6.30	10-265	Low Bias			
2,2-Dichloropropane	44		"	50.0		87.2	68-133				
2-Butanone	49		"	50.0		98.9	49-138				
2-Chlorotoluene	47		"	50.0		94.0	61-121				
4-Chlorotoluene	49		"	50.0		97.3	65-126				
Acetone	36		"	50.0		71.1	21-131				
Benzene	53		"	50.0		106	81-125				
mobenzene	46		"	50.0		91.9	65-125				
,mochloromethane	58		"	50.0		116	78-127				
Bromodichloromethane	56		"	50.0		111	73-131				
Bromoform	54		"	50.0		108	66-137				

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Volatile Organic Compounds by EPA SW846-8260B - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BE30623 - EPA 5035A											
LCS (BE30623-BS1)								Prepared & Analyzed: 05/14/2013			
Bromomethane	27		ug/L	50.0		53.6	55-144	Low Bias			
Carbon tetrachloride	63		"	50.0		126	74-137				
Chlorobenzene	49		"	50.0		98.4	75-127				
Chloroethane	53		"	50.0		105	65-138				
Chloroform	59		"	50.0		117	82-128				
Chloromethane	50		"	50.0		100	51-138				
cis-1,2-Dichloroethylene	56		"	50.0		111	77-130				
cis-1,3-Dichloropropylene	52		"	50.0		104	68-123				
Dibromochloromethane	57		"	50.0		113	73-136				
Dibromomethane	56		"	50.0		112	75-131				
Dichlorodifluoromethane	56		"	50.0		112	10-183				
Ethyl Benzene	50		"	50.0		101	75-130				
Hexachlorobutadiene	57		"	50.0		113	59-130				
Isopropylbenzene	48		"	50.0		95.7	68-135				
Methyl tert-butyl ether (MTBE)	52		"	50.0		105	76-136				
Methylene chloride	34		"	50.0		68.1	55-143				
Naphthalene	49		"	50.0		98.2	65-140				
n-Butylbenzene	50		"	50.0		99.2	63-123				
n-Propylbenzene	49		"	50.0		97.5	65-127				
o-Xylene	48		"	50.0		96.2	71-123				
p- & m- Xylenes	100		"	100		102	72-127				
p-Isopropyltoluene	52		"	50.0		103	69-128				
sec-Butylbenzene	49		"	50.0		98.9	69-125				
Styrene	49		"	50.0		98.2	74-127				
tert-Butylbenzene	50		"	50.0		99.3	59-164				
Tetrachloroethylene	50		"	50.0		99.9	65-151				
Toluene	48		"	50.0		96.9	72-127				
trans-1,2-Dichloroethylene	54		"	50.0		108	73-137				
trans-1,3-Dichloropropylene	49		"	50.0		98.4	67-131				
Trichloroethylene	50		"	50.0		100	73-129				
Trichlorofluoromethane	58		"	50.0		116	69-136				
Vinyl Chloride	49		"	50.0		98.1	58-132				
Vinyl acetate	35		"	50.0		70.2	10-84				
Surrogate: 1,2-Dichloroethane-d4	*59.3*		"	*50.0*		*119*	*73-130*				
Surrogate: p-Bromofluorobenzene	*48.6*		"	*50.0*		*97.3*	*72-127*				
Surrogate: Toluene-d8	*48.8*		"	*50.0*		*97.6*	*84-117*				

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Volatile Organic Compounds by EPA SW846-8260B - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BE30623 - EPA 5035A											
LCS Dup (BE30623-BSD1)							Prepared & Analyzed: 05/14/2013				
1,1,1,2-Tetrachloroethane	54		ug/L	50.0		108	72-132		6.70	30	
1,1,1-Trichloroethane	58		"	50.0		117	77-131		4.46	30	
1,1,2,2-Tetrachloroethane	50		"	50.0		99.5	68-129		5.90	30	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	56		"	50.0		111	75-143		5.57	30	
1,1,2-Trichloroethane	50		"	50.0		101	72-128		4.23	30	
1,1-Dichloroethane	53		"	50.0		106	78-133		0.264	30	
1,1-Dichloroethylene	53		"	50.0		107	71-142		6.62	30	
1,1-Dichloropropylene	51		"	50.0		102	77-124		2.72	30	
1,2,3-Trichlorobenzene	49		"	50.0		98.8	65-134		5.53	30	
1,2,3-Trichloropropane	50		"	50.0		101	65-127		5.63	30	
1,2,4-Trichlorobenzene	51		"	50.0		102	59-133		5.36	30	
1,2,4-Trimethylbenzene	50		"	50.0		99.7	68-128		1.05	30	
1,2-Dibromo-3-chloropropane	49		"	50.0		98.0	58-145		9.27	30	
1,2-Dibromoethane	51		"	50.0		103	73-128		0.371	30	
1,2-Dichlorobenzene	50		"	50.0		99.8	69-126		1.39	30	
1,2-Dichloroethane	53		"	50.0		107	78-131		7.22	30	
1,2-Dichloropropane	52		"	50.0		105	72-129		5.24	30	
1,3,5-Trimethylbenzene	51		"	50.0		102	67-125		0.987	30	
1,3-Dichlorobenzene	50		"	50.0		100	67-125		1.37	30	
Dichloropropane	51		"	50.0		102	73-126		3.19	30	
1,4-Dichlorobenzene	50		"	50.0		99.2	67-127		0.282	30	
1,4-Dioxane	5.3		"	50.0		10.7	10-265		51.4	30	Non-dir.
2,2-Dichloropropane	40		"	50.0		79.2	68-133		9.52	30	
2-Butanone	46		"	50.0		92.6	49-138		6.54	30	
2-Chlorotoluene	48		"	50.0		96.4	61-121		2.48	30	
4-Chlorotoluene	50		"	50.0		99.9	65-126		2.60	30	
Acetone	36		"	50.0		72.7	21-131		2.22	30	
Benzene	52		"	50.0		105	81-125		1.31	30	
Bromobenzene	49		"	50.0		97.8	65-125		6.30	30	
Bromochloromethane	56		"	50.0		111	78-127		3.97	30	
Bromodichloromethane	58		"	50.0		116	73-131		4.08	30	
Bromoform	58		"	50.0		115	66-137		6.46	30	
Bromomethane	24		"	50.0		47.2	55-144	Low Bias	12.8	30	
Carbon tetrachloride	60		"	50.0		120	74-137		4.91	30	
Chlorobenzene	49		"	50.0		98.8	75-127		0.426	30	
Chloroethane	48		"	50.0		96.5	65-138		8.57	30	
Chloroform	56		"	50.0		111	82-128		5.21	30	
Chloromethane	46		"	50.0		91.4	51-138		9.16	30	
cis-1,2-Dichloroethylene	54		"	50.0		108	77-130		2.84	30	
cis-1,3-Dichloropropylene	56		"	50.0		112	68-123		7.01	30	
Dibromochloromethane	59		"	50.0		117	73-136		3.70	30	
Dibromomethane	55		"	50.0		111	75-131		1.24	30	
Dichlorodifluoromethane	51		"	50.0		102	10-183		8.74	30	
Ethyl Benzene	51		"	50.0		103	75-130		1.88	30	
Hexachlorobutadiene	57		"	50.0		114	59-130		0.123	30	
Isopropylbenzene	50		"	50.0		101	68-135		5.35	30	
Methyl tert-butyl ether (MTBE)	51		"	50.0		102	76-136		2.87	30	
Methylene chloride	32		"	50.0		63.3	55-143		7.34	30	
Naphthalene	48		"	50.0		96.3	65-140		1.95	30	
Propylbenzene	50		"	50.0		99.4	63-123		0.161	30	
n-Propylbenzene	50		"	50.0		101	65-127		3.11	30	

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Volatile Organic Compounds by EPA SW846-8260B - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BE30623 - EPA 5035A											
LCS Dup (BE30623-BSD1)								Prepared & Analyzed: 05/14/2013			
o-Xylene	48		ug/L	50.0		95.3	71-123		0.919	30	
p- & m- Xylenes	100		"	100		101	72-127		1.36	30	
p-Isopropyltoluene	52		"	50.0		103	69-128		0.116	30	
sec-Butylbenzene	51		"	50.0		103	69-125		3.81	30	
Styrene	49		"	50.0		97.2	74-127		1.02	30	
tert-Butylbenzene	51		"	50.0		103	59-164		3.37	30	
Tetrachloroethylene	53		"	50.0		106	65-151		5.62	30	
Toluene	51		"	50.0		103	72-127		5.78	30	
trans-1,2-Dichloroethylene	51		"	50.0		103	73-137		5.46	30	
trans-1,3-Dichloropropylene	51		"	50.0		103	67-131		4.20	30	
Trichloroethylene	55		"	50.0		109	73-129		8.93	30	
Trichlorofluoromethane	53		"	50.0		107	69-136		8.71	30	
Vinyl Chloride	46		"	50.0		92.3	58-132		6.11	30	
Vinyl acetate	38		"	50.0		76.9	10-84		9.19	30	
Surrogate: 1,2-Dichloroethane-d4	*54.0*		"	*50.0*		*108*	*73-130*				
Surrogate: p-Bromofluorobenzene	*49.6*		"	*50.0*		*99.1*	*72-127*				
Surrogate: Toluene-d8	*51.3*		"	*50.0*		*103*	*84-117*				

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Semivolatile Organic Compounds by EPA Method 8270C - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BE30552 - EPA 3550B											
Blank (BE30552-BLK1)									Prepared: 05/13/2013 Analyzed: 05/14/2013		
Acenaphthene	ND	250	ug/kg wet								
Acenaphthylene	ND	250	"								
Aniline	ND	250	"								
Anthracene	ND	250	"								
Benzo(a)anthracene	ND	250	"								
Benzo(a)pyrene	ND	250	"								
Benzo(b)fluoranthene	ND	250	"								
Benzo(g,h,i)perylene	ND	250	"								
Benzyl alcohol	ND	250	"								
Benzo(k)fluoranthene	ND	250	"								
Benzyl butyl phthalate	ND	250	"								
4-Bromophenyl phenyl ether	ND	250	"								
4-Chloro-3-methylphenol	ND	250	"								
4-Chloroaniline	ND	250	"								
Bis(2-chloroethoxy)methane	ND	250	"								
Bis(2-chloroethyl)ether	ND	250	"								
Bis(2-chloroisopropyl)ether	ND	250	"								
Bis(2-ethylhexyl)phthalate	ND	250	"								
2-Chloronaphthalene	ND	250	"								
hlorophenol	ND	250	"								
-Chlorophenyl phenyl ether	ND	250	"								
Chrysene	ND	250	"								
Dibenzo(a,h)anthracene	ND	250	"								
Dibenzofuran	ND	250	"								
Di-n-butyl phthalate	ND	250	"								
1,2-Dichlorobenzene	ND	250	"								
1,4-Dichlorobenzene	ND	250	"								
1,3-Dichlorobenzene	ND	250	"								
3,3'-Dichlorobenzidine	ND	250	"								
2,4-Dichlorophenol	ND	250	"								
Diethyl phthalate	ND	250	"								
2,4-Dimethylphenol	ND	250	"								
Dimethyl phthalate	ND	250	"								
2-Nitroaniline	ND	250	"								
4,6-Dinitro-2-methylphenol	ND	500	"								
2,4-Dinitrophenol	ND	500	"								
2,6-Dinitrotoluene	ND	250	"								
2,4-Dinitrotoluene	ND	250	"								
Di-n-octyl phthalate	ND	250	"								
Fluoranthene	ND	250	"								
Fluorene	ND	250	"								
Hexachlorobenzene	ND	250	"								
Hexachlorobutadiene	ND	250	"								
Hexachlorocyclopentadiene	ND	250	"								
Hexachloroethane	ND	250	"								
Indeno(1,2,3-cd)pyrene	ND	250	"								
Isophorone	ND	250	"								
2-Methylnaphthalene	ND	250	"								
ethylphenol	ND	250	"								
4-Methylphenols	ND	250	"								
Naphthalene	ND	250	"								

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Semivolatile Organic Compounds by EPA Method 8270C - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BE30552 - EPA 3550B											
Blank (BE30552-BLK1)								Prepared: 05/13/2013 Analyzed: 05/14/2013			
3-Nitroaniline	ND	250	ug/kg wet								
4-Nitroaniline	ND	250	"								
Nitrobenzene	ND	250	"								
4-Nitrophenol	ND	250	"								
2-Nitrophenol	ND	250	"								
N-nitroso-di-n-propylamine	ND	250	"								
N-Nitrosodimethylamine	ND	250	"								
N-Nitrosodiphenylamine	ND	250	"								
Pentachlorophenol	ND	250	"								
Phenanthrene	ND	250	"								
Phenol	ND	250	"								
Pyrene	ND	250	"								
Pyridine	ND	250	"								
1,2,4-Trichlorobenzene	ND	250	"								
2,4,5-Trichlorophenol	ND	250	"								
2,4,6-Trichlorophenol	ND	250	"								
Surrogate: 2,4,6-Tribromophenol	*2970*		"	*3750*		*79.1*	*15-110*				
Surrogate: 2-Fluorobiphenyl	*1750*		"	*2500*		*69.8*	*30-130*				
Surrogate: 2-Fluorophenol	*1560*		"	*3750*		*41.5*	*15-110*				
Surrogate: Nitrobenzene-d5	*1070*		"	*2500*		*42.9*	*30-130*				
Surrogate: Phenol-d5	*2580*		"	*3760*		*68.6*	*15-110*				
Surrogate: Terphenyl-d14	*2510*		"	*2500*		*100*	*30-130*				
LCS (BE30552-BS1)								Prepared: 05/13/2013 Analyzed: 05/14/2013			
Acenaphthene	2570	250	ug/kg wet	2500		103	31.1-109				
Acenaphthylene	2420	250	"	2500		96.7	31.1-106				
Aniline	2320	250	"	2500		92.8	5.07-149				
Anthracene	2480	250	"	2500		99.0	31.5-107				
Benzo(a)anthracene	2170	250	"	2500		86.9	31.5-115				
Benzo(a)pyrene	3090	250	"	2500		124	29.1-138				
Benzo(b)fluoranthene	3710	250	"	2500		148	14.9-131	High Bias			
Benzo(g,h,i)perylene	2590	250	"	2500		104	6.56-121				
Benzyl alcohol	2340	250	"	2500		93.8	25.4-119				
Benzo(k)fluoranthene	2650	250	"	2500		106	29.1-121				
Benzyl butyl phthalate	2150	250	"	2500		85.9	31.3-112				
4-Bromophenyl phenyl ether	2530	250	"	2500		101	25.2-113				
4-Chloro-3-methylphenol	2560	250	"	2500		103	29.5-124				
4-Chloroaniline	2300	250	"	2500		91.8	10-177				
Bis(2-chloroethoxy)methane	2320	250	"	2500		92.9	27.9-111				
Bis(2-chloroethyl)ether	1960	250	"	2500		78.4	18-122				
Bis(2-chloroisopropyl)ether	2270	250	"	2500		90.7	9.62-123				
Bis(2-ethylhexyl)phthalate	2230	250	"	2500		89.1	25-105				
2-Chloronaphthalene	2310	250	"	2500		92.6	31.7-108				
2-Chlorophenol	2180	250	"	2500		87.0	20.3-125				
4-Chlorophenyl phenyl ether	2390	250	"	2500		95.7	23.6-110				
Chrysene	2350	250	"	2500		93.8	27.4-117				
Dibenzo(a,h)anthracene	2700	250	"	2500		108	14.6-119				
Dibenzofuran	2450	250	"	2500		98.0	30.2-108				
Di-n-butyl phthalate	2360	250	"	2500		94.5	33.5-100				
1,2-Dichlorobenzene	1940	250	"	2500		77.4	22.8-114				
1,4-Dichlorobenzene	1840	250	"	2500		73.7	19.8-121				

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Semivolatile Organic Compounds by EPA Method 8270C - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BE30552 - EPA 3550B											
LCS (BE30552-BS1)								Prepared: 05/13/2013 Analyzed: 05/14/2013			
1,3-Dichlorobenzene	1860	250	ug/kg wet	2500		74.2	20.6-119				
3,3'-Dichlorobenzidine	2030	250	"	2500		81.1	10-180				
2,4-Dichlorophenol	2440	250	"	2500		97.7	23.3-125				
Diethyl phthalate	2310	250	"	2500		92.4	29.7-111				
2,4-Dimethylphenol	2270	250	"	2500		91.0	29.8-115				
Dimethyl phthalate	2230	250	"	2500		89.2	27-118				
2-Nitroaniline	2360	250	"	2500		94.4	40-140				
4,6-Dinitro-2-methylphenol	2330	500	"	2500		93.3	10-122				
2,4-Dinitrophenol	919	500	"	2500		36.8	10-151				
2,6-Dinitrotoluene	2610	250	"	2500		104	26.1-119				
2,4-Dinitrotoluene	2360	250	"	2500		94.3	21.4-126				
Di-n-octyl phthalate	2940	250	"	2500		118	19-129				
Fluoranthene	2390	250	"	2500		95.5	31.3-110				
Fluorene	2370	250	"	2500		94.9	29.9-108				
Hexachlorobenzene	2580	250	"	2500		103	31.7-102	High Bias			
Hexachlorobutadiene	2170	250	"	2500		86.9	10.1-134				
Hexachlorocyclopentadiene	2600	250	"	2500		104	10-122				
Hexachloroethane	1980	250	"	2500		79.4	20.2-114				
?-deno(1,2,3-cd)pyrene	2780	250	"	2500		111	12.6-120				
horone	2240	250	"	2500		89.6	27.2-113				
-Methylnaphthalene	2350	250	"	2500		94.1	17.4-119				
2-Methylphenol	2420	250	"	2500		96.9	23.6-125				
3- & 4-Methylphenols	2280	250	"	2500		91.2	21.3-115				
Naphthalene	2180	250	"	2500		87.2	25.2-111				
3-Nitroaniline	2920	250	"	2500		117	9.73-147				
4-Nitroaniline	3590	250	"	2500		144	6.42-169				
Nitrobenzene	2090	250	"	2500		83.7	21.8-118				
4-Nitrophenol	2440	250	"	2500		97.7	10-136				
2-Nitrophenol	2230	250	"	2500		89.1	20.6-119				
N-nitroso-di-n-propylamine	2440	250	"	2500		97.8	25.3-118				
N-Nitrosodimethylamine	1950	250	"	2500		78.1	10-142				
N-Nitrosodiphenylamine	3360	250	"	2500		134	35.8-132	High Bias			
Pentachlorophenol	2470	250	"	2500		98.8	3.68-146				
Phenanthrene	2470	250	"	2500		98.8	31.2-105				
Phenol	2360	250	"	2500		94.6	23.2-117				
Pyrene	1970	250	"	2500		78.7	26.3-124				
Pyridine	845	250	"	2500		33.8	10-122				
1,2,4-Trichlorobenzene	2110	250	"	2500		84.5	19.3-128				
2,4,5-Trichlorophenol	2310	250	"	2500		92.3	19.5-131				
2,4,6-Trichlorophenol	2470	250	"	2500		98.9	24.2-123				
Surrogate: 2,4,6-Tribromophenol	*4140*		*"*	*3750*		*110*	*15-110*				
Surrogate: 2-Fluorobiphenyl	*2200*		*"*	*2500*		*87.9*	*30-130*				
Surrogate: 2-Fluorophenol	*2770*		*"*	*3750*		*73.8*	*15-110*				
Surrogate: Nitrobenzene-d5	*1920*		*"*	*2500*		*76.8*	*30-130*				
Surrogate: Phenol-d5	*3420*		*"*	*3760*		*91.1*	*15-110*				
Surrogate: Terphenyl-d14	*1910*		*"*	*2500*		*76.3*	*30-130*				

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Semivolatile Organic Compounds by EPA Method 8270C - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BE30552 - EPA 3550B											
LCS Dup (BE30552-BSD1)									Prepared: 05/13/2013 Analyzed: 05/14/2013		
Acenaphthene	2550	250	ug/kg wet	2500		102	31.1-109		0.449	30	
Acenaphthylene	2400	250	"	2500		96.0	31.1-106		0.727	30	
Aniline	2360	250	"	2500		94.4	5.07-149		1.65	30	
Anthracene	2430	250	"	2500		97.4	31.5-107		1.67	30	
Benzo(a)anthracene	2140	250	"	2500		85.7	31.5-115		1.34	30	
Benzo(a)pyrene	3080	250	"	2500		123	29.1-138		0.373	30	
Benzo(b)fluoranthene	4140	250	"	2500		166	14.9-131	High Bias	11.1	30	
Benzo(g,h,i)perylene	2400	250	"	2500		95.9	6.56-121		7.80	30	
Benzyl alcohol	2380	250	"	2500		95.2	25.4-119		1.48	30	
Benzo(k)fluoranthene	2900	250	"	2500		116	29.1-121		9.00	30	
Benzyl butyl phthalate	2130	250	"	2500		85.1	31.3-112		0.889	30	
4-Bromophenyl phenyl ether	2520	250	"	2500		101	25.2-113		0.336	30	
4-Chloro-3-methylphenol	2500	250	"	2500		100	29.5-124		2.39	30	
4-Chloroaniline	2240	250	"	2500		89.7	10-177		2.34	30	
Bis(2-chloroethoxy)methane	2390	250	"	2500		95.5	27.9-111		2.82	30	
Bis(2-chloroethyl)ether	2120	250	"	2500		84.9	18-122		8.03	30	
Bis(2-chloroisopropyl)ether	2410	250	"	2500		96.4	9.62-123		6.07	30	
Bis(2-ethylhexyl)phthalate	2220	250	"	2500		88.8	25-105		0.292	30	
2-Chloronaphthalene	2300	250	"	2500		92.0	31.7-108		0.628	30	
2-Chlorophenol	2250	250	"	2500		90.0	20.3-125		3.39	30	
4-Chlorophenyl phenyl ether	2350	250	"	2500		93.9	23.6-110		1.81	30	
Chrysene	2280	250	"	2500		91.0	27.4-117		3.05	30	
Dibenzo(a,h)anthracene	2670	250	"	2500		107	14.6-119		1.02	30	
Dibenzofuran	2430	250	"	2500		97.3	30.2-108		0.717	30	
Di-n-butyl phthalate	2400	250	"	2500		95.9	33.5-100		1.47	30	
1,2-Dichlorobenzene	2090	250	"	2500		83.7	22.8-114		7.82	30	
1,4-Dichlorobenzene	1980	250	"	2500		79.4	19.8-121		7.42	30	
1,3-Dichlorobenzene	2010	250	"	2500		80.3	20.6-119		7.85	30	
3,3'-Dichlorobenzidine	1960	250	"	2500		78.3	10-180		3.49	30	
2,4-Dichlorophenol	2400	250	"	2500		95.9	23.3-125		1.90	30	
Diethyl phthalate	2310	250	"	2500		92.3	29.7-111		0.0650	30	
2,4-Dimethylphenol	2260	250	"	2500		90.6	29.8-115		0.419	30	
Dimethyl phthalate	2240	250	"	2500		89.8	27-118		0.626	30	
4,6-Dinitro-2-methylphenol	2550	500	"	2500		102	10-122		9.01	30	
2-Nitroaniline	2310	250	"	2500		92.6	40-140		1.95	30	
2,4-Dinitrophenol	1120	500	"	2500		44.6	10-151		19.3	30	
2,6-Dinitrotoluene	2600	250	"	2500		104	26.1-119		0.115	30	
2,4-Dinitrotoluene	2360	250	"	2500		94.6	21.4-126		0.296	30	
Di-n-octyl phthalate	2990	250	"	2500		120	19-129		1.72	30	
Fluoranthene	2370	250	"	2500		94.9	31.3-110		0.631	30	
Fluorene	2340	250	"	2500		93.7	29.9-108		1.29	30	
Hexachlorobenzene	2570	250	"	2500		103	31.7-102	High Bias	0.253	30	
Hexachlorobutadiene	2290	250	"	2500		91.8	10.1-134		5.42	30	
Hexachlorocyclopentadiene	2660	250	"	2500		106	10-122		2.49	30	
Hexachloroethane	2180	250	"	2500		87.2	20.2-114		9.46	30	
Indeno(1,2,3-cd)pyrene	2740	250	"	2500		110	12.6-120		1.30	30	
Isophorone	2330	250	"	2500		93.3	27.2-113		4.09	30	
2-Methylnaphthalene	2380	250	"	2500		95.1	17.4-119		1.10	30	
2-Methylphenol	2410	250	"	2500		96.6	23.6-125		0.289	30	
3- & 4-Methylphenols	2270	250	"	2500		90.7	21.3-115		0.616	30	
Naphthalene	2250	250	"	2500		90.1	25.2-111		3.25	30	

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Semivolatile Organic Compounds by EPA Method 8270C - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BE30552 - EPA 3550B											
LCS Dup (BE30552-BSD1)									Prepared: 05/13/2013 Analyzed: 05/14/2013		
3-Nitroaniline	2920	250	ug/kg wet	2500		117	9.73-147		0.0856	30	
4-Nitroaniline	3630	250	"	2500		145	6.42-169		1.11	30	
Nitrobenzene	2270	250	"	2500		91.0	21.8-118		8.31	30	
4-Nitrophenol	2450	250	"	2500		98.1	10-136		0.368	30	
2-Nitrophenol	2320	250	"	2500		92.8	20.6-119		3.98	30	
N-nitroso-di-n-propylamine	2530	250	"	2500		101	25.3-118		3.44	30	
N-Nitrosodimethylamine	2260	250	"	2500		90.4	10-142		14.6	30	
N-Nitrosodiphenylamine	3380	250	"	2500		135	35.8-132	High Bias	0.727	30	
Pentachlorophenol	2500	250	"	2500		99.8	3.68-146		1.03	30	
Phenanthrene	2440	250	"	2500		97.6	31.2-105		1.20	30	
Phenol	2380	250	"	2500		95.1	23.2-117		0.548	30	
Pyrene	1930	250	"	2500		77.3	26.3-124		1.77	30	
Pyridine	1160	250	"	2500		46.5	10-122		31.7	30	Non-dir.
1,2,4-Trichlorobenzene	2220	250	"	2500		88.8	19.3-128		5.01	30	
2,4,5-Trichlorophenol	2280	250	"	2500		91.4	19.5-131		0.958	30	
2,4,6-Trichlorophenol	2460	250	"	2500		98.2	24.2-123		0.710	30	
Surrogate: 2,4,6-Tribromophenol	*4090*		"	*3750*		*109*	*15-110*				
Surrogate: 2-Fluorobiphenyl	*2180*		"	*2500*		*86.9*	*30-130*				
rrogate: 2-Fluorophenol	*3100*		"	*3750*		*82.5*	*15-110*				
rogate: Nitrobenzene-d5	*2140*		"	*2500*		*85.7*	*30-130*				
Surrogate: Phenol-d5	*3480*		"	*3760*		*92.5*	*15-110*				
Surrogate: Terphenyl-d14	*1870*		"	*2500*		*74.7*	*30-130*				

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Organochlorine Pesticides by EPA SW 846-8081 - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BE30630 - EPA 3545A											
Blank (BE30630-BLK1)											Prepared: 05/14/2013 Analyzed: 05/15/2013
Toxaphene	ND	25.0	ug/kg wet								
Methoxychlor	ND	2.48	"								
Heptachlor epoxide	ND	0.495	"								
Heptachlor	ND	0.495	"								
gamma-BHC (Lindane)	ND	0.495	"								
Endrin ketone	ND	0.495	"								
Endrin aldehyde	ND	0.495	"								
Endrin	ND	0.495	"								
Endosulfan sulfate	ND	0.495	"								
Endosulfan II	ND	0.495	"								
Endosulfan I	ND	0.495	"								
Dieldrin	ND	0.495	"								
delta-BHC	ND	0.495	"								
Chlordane, total	ND	1.98	"								
beta-BHC	ND	0.495	"								
alpha-BHC	ND	0.495	"								
Aldrin	ND	0.495	"								
4,4'-DDT	ND	0.495	"								
4,4'-DDE	ND	0.495	"								
4,4'-DDD	ND	0.495	"								
Aroclor 1260	ND	25.5	"								
Aroclor 1254	ND	25.5	"								
Aroclor 1248	ND	25.5	"								
Aroclor 1242	ND	25.5	"								
Aroclor 1232	ND	25.5	"								
Aroclor 1221	ND	25.5	"								
Aroclor 1016	ND	25.5	"								
Total PCBs	ND	25.5	"								
Surrogate: Tetrachloro-m-xylene	*94.7*		"	*100*		*94.7*	*30-150*				
Surrogate: Decachlorobiphenyl	*94.4*		"	*100*		*93.9*	*30-150*				

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Organochlorine Pesticides by EPA SW 846-8081 - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BE30630 - EPA 3545A											
LCS (BE30630-BS1)								Prepared: 05/14/2013 Analyzed: 05/15/2013			
Methoxychlor	47.2	2.48	ug/kg wet	50.0		94.4	40-140				
Heptachlor epoxide	41.2	0.495	"	50.0		82.4	40-140				
Heptachlor	40.0	0.495	"	50.0		79.9	40-140				
gamma-BHC (Lindane)	41.7	0.495	"	50.0		83.5	40-140				
Endrin ketone	38.3	0.495	"	50.0		76.5	40-140				
Endrin aldehyde	40.2	0.495	"	50.0		80.4	40-140				
Endrin	43.3	0.495	"	50.0		86.7	40-140				
Endosulfan sulfate	36.9	0.495	"	50.0		73.8	40-140				
Endosulfan II	39.5	0.495	"	50.0		79.0	40-140				
Endosulfan I	42.8	0.495	"	50.0		85.6	40-140				
Dieldrin	42.5	0.495	"	50.0		85.0	40-140				
delta-BHC	39.4	0.495	"	50.0		78.8	40-140				
beta-BHC	41.3	0.495	"	50.0		82.6	40-140				
alpha-BHC	42.7	0.495	"	50.0		85.4	40-140				
Aldrin	41.9	0.495	"	50.0		83.9	40-140				
4,4'-DDT	48.0	0.495	"	50.0		95.9	40-140				
4,4'-DDE	42.0	0.495	"	50.0		84.1	40-140				
4,4'-DDD	44.8	0.495	"	50.0		89.6	40-140				
rrogate: Tetrachloro-m-xylene	*95.8*		"	*100*		*95.8*	*30-150*				
rogate: Decachlorobiphenyl	*85.4*		"	*100*		*85.0*	*30-150*				
LCS (BE30630-BS2)								Prepared: 05/14/2013 Analyzed: 05/15/2013			
Aroclor 1260	412	25.5	ug/kg wet	500		82.4	40-140				
Aroclor 1016	437	25.5	"	500		87.4	40-140				
Surrogate: Tetrachloro-m-xylene	*97.0*		"	*100*		*97.0*	*30-150*				
Surrogate: Decachlorobiphenyl	*83.5*		"	*100*		*83.1*	*30-150*				
LCS Dup (BE30630-BSD1)								Prepared: 05/14/2013 Analyzed: 05/15/2013			
Methoxychlor	45.3	2.48	ug/kg wet	50.0		90.7	40-140		3.98	200	
Heptachlor epoxide	40.0	0.495	"	50.0		80.1	40-140		2.89	200	
Heptachlor	33.1	0.495	"	50.0		66.2	40-140		18.8	200	
gamma-BHC (Lindane)	40.3	0.495	"	50.0		80.7	40-140		3.40	200	
Endrin ketone	37.7	0.495	"	50.0		75.5	40-140		1.42	200	
Endrin aldehyde	39.0	0.495	"	50.0		78.1	40-140		2.97	200	
Endrin	42.6	0.495	"	50.0		85.1	40-140		1.78	200	
Endosulfan sulfate	29.0	0.495	"	50.0		58.0	40-140		24.0	200	
Endosulfan II	37.0	0.495	"	50.0		74.0	40-140		6.51	200	
Endosulfan I	42.0	0.495	"	50.0		83.9	40-140		1.98	200	
Dieldrin	42.0	0.495	"	50.0		84.0	40-140		1.26	200	
delta-BHC	38.1	0.495	"	50.0		76.2	40-140		3.40	200	
beta-BHC	39.9	0.495	"	50.0		79.9	40-140		3.27	200	
alpha-BHC	41.2	0.495	"	50.0		82.4	40-140		3.58	200	
Aldrin	40.8	0.495	"	50.0		81.6	40-140		2.75	200	
4,4'-DDT	47.1	0.495	"	50.0		94.2	40-140		1.84	200	
4,4'-DDE	41.2	0.495	"	50.0		82.4	40-140		2.02	200	
4,4'-DDD	44.4	0.495	"	50.0		88.9	40-140		0.835	200	
Surrogate: Tetrachloro-m-xylene	*92.4*		"	*100*		*92.4*	*30-150*				
Surrogate: Decachlorobiphenyl	*85.0*		"	*100*		*84.6*	*30-150*				

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Chlorinated Herbicides by EPA Method 8151 - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BE30574 - EPA 3550B/8151A											
Blank (BE30574-BLK1)								Prepared & Analyzed: 05/14/2013			
2,4-D	ND	20.0	ug/kg wet								
2,4,5-TP (Silvex)	ND	20.0	"								
2,4,5-T	ND	20.0	"								
Surrogate: 2,4-Dichlorophenylacetic acid (DCAA)	*595*		*"*	*500*		*119*	*28.3-149*				
LCS (BE30574-BS1)								Prepared & Analyzed: 05/14/2013			
2,4-D	139	20.0	ug/kg wet	160		86.9	27.8-143				
2,4,5-TP (Silvex)	140	20.0	"	160		87.5	28.4-148				
2,4,5-T	149	20.0	"	160		93.1	18.9-153				
Surrogate: 2,4-Dichlorophenylacetic acid (DCAA)	*561*		*"*	*500*		*112*	*28.3-149*				
LCS Dup (BE30574-BSD1)								Prepared & Analyzed: 05/14/2013			
2,4-D	139	20.0	ug/kg wet	160		86.9	27.8-143		0.00	38	
2,4,5-TP (Silvex)	142	20.0	"	160		88.8	28.4-148		1.42	39	
2,4,5-T	146	20.0	"	160		91.2	18.9-153		2.03	39	
Surrogate: 2,4-Dichlorophenylacetic acid (DCAA)	*541*		*"*	*500*		*108*	*28.3-149*				

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Metals by EPA 6000 Series Methods - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BE30572 - EPA 3050B											
Blank (BE30572-BLK1)											Prepared: 05/13/2013 Analyzed: 05/14/2013
Aluminum	ND	2.00	mg/kg wet								
Antimony	ND	0.500	"								
Arsenic	ND	1.00	"								
Barium	ND	0.500	"								
Beryllium	ND	0.100	"								
Cadmium	ND	0.500	"								
Calcium	ND	5.00	"								
Chromium	ND	0.500	"								
Cobalt	ND	0.500	"								
Copper	ND	0.500	"								
Iron	ND	2.00	"								
Lead	ND	0.300	"								
Magnesium	ND	5.00	"								
Manganese	ND	1.00	"								
Nickel	ND	0.500	"								
Potassium	ND	10.0	"								
Selenium	ND	0.500	"								
Silver	ND	0.500	"								
Sodium	ND	10.0	"								
Thallium	ND	0.500	"								
Vanadium	ND	0.500	"								
Zinc	ND	0.500	"								
Reference (BE30572-SRM1)											Prepared: 05/13/2013 Analyzed: 05/14/2013
Aluminum	6690	2.00	mg/kg wet	8360		80.0	40.4-159				
Antimony	127	0.500	"	92.9		137	24.8-272				
Arsenic	95.9	1.00	"	94.5		102	69.2-131				
Barium	164	0.500	"	166		98.5	72.9-127				
Beryllium	53.3	0.100	"	52.6		101	73-127				
Cadmium	57.7	0.500	"	59.9		96.4	73.1-127				
Calcium	5790	5.00	"	6160		94.0	73.9-126				
Chromium	64.6	0.500	"	69.3		93.2	68.4-132				
Cobalt	103	0.500	"	101		102	74.2-125				
Copper	81.2	0.500	"	78.0		104	73.6-126				
Iron	11000	2.00	"	12800		85.8	31.8-168				
Lead	88.5	0.300	"	91.7		96.6	70.2-130				
Magnesium	2740	5.00	"	3030		90.5	66-134				
Manganese	270	1.00	"	283		95.5	73.9-125				
Nickel	60.5	0.500	"	56.6		107	70-130				
Potassium	3530	10.0	"	3820		92.4	64.7-136				
Selenium	159	0.500	"	159		100	67.9-133				
Silver	31.4	0.500	"	33.9		92.5	65.5-135				
Sodium	729	10.0	"	652		112	55.1-145				
Thallium	116	0.500	"	119		97.1	67.6-133				
Vanadium	50.4	0.500	"	56.3		89.6	53.3-147				
Zinc	133	0.500	"	137		97.4	67.4-133				

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Mercury by EPA 7000/200 Series Methods - Quality Control Data

York Analytical Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source* Result	%REC	%REC Limits	Flag	RPD	RPD Limit	Flag
Batch BE30529 - EPA SW846-7471											
Blank (BE30529-BLK1)									Prepared: 05/13/2013 Analyzed: 05/14/2013		
Mercury	ND	0.0330	mg/kg wet								
LCS (BE30529-BS1)									Prepared: 05/13/2013 Analyzed: 05/14/2013		
Mercury	4.02		mg/kg	3.73		108	67.6-131				

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Volatile Analysis Sample Containers

Lab ID	Client Sample ID	Volatile Sample Container
13E0447-01	B2 Grab 10-12	40mL Vial with Stir Bar-Cool 4° C

Notes and Definitions

S-06	The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interferences.
S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
QL-02	This LCS analyte is outside Laboratory Recovery limits due the analyte behavior using the referenced method. The reference method has certain limitations with respect to analytes of this nature.
J	Detected below the Reporting Limit but greater than or equal to the Method Detection Limit (MDL); therefore, the result is an estimated concentration.

ND	Analyte NOT DETECTED at the stated Reporting Limit (RL) or above.
RL	REPORTING LIMIT - the minimum reportable value based upon the lowest point in the analyte calibration curve.
MDL	METHOD DETECTION LIMIT - the minimum concentration that can be measured and reported with a 99% confidence that the concentration is greater than zero. If requested or required, a value reported below the RL and above the MDL is considered estimated and is noted with a "J" flag.
R	Not reported
RPD	Relative Percent Difference
Wet	The data has been reported on an as-received (wet weight) basis
Low Bias	Low Bias flag indicates that the recovery of the flagged analyte is below the laboratory or regulatory lower control limit. The data user should take note that this analyte may be biased low but should evaluate multiple lines of evidence including the LCS and site-specific MS/MSD data to draw bias conclusions. In cases where no site-specific MS/MSD was requested, only the LCS data can be used to evaluate such bias.
High Bias	High Bias flag indicates that the recovery of the flagged analyte is above the laboratory or regulatory upper control limit. The data user should take note that this analyte may be biased high but should evaluate multiple lines of evidence including the LCS and site-specific MS/MSD data to draw bias conclusions. In cases where no site-specific MS/MSD was requested, only the LCS data can be used to evaluate such bias.
Non-Dir.	Non-dir. flag (Non-Directional Bias) indicates that the Relative Percent Difference (RPD) (a measure of precision) among the MS and MSD data is outside the laboratory or regulatory control limit. This alerts the data user where the MS and MSD are from site-specific samples that the RPD is high due to either non-homogeneous distribution of target analyte between the MS/MSD or indicates poor reproducibility for other reasons.

If EPA SW-846 method 8270 is included herein it is noted that the target compound N-nitrosodiphenylamine (NDPA) decomposes in the gas chromatographic inlet and cannot be separated from diphenylamine (DPA). These results could actually represent 100% DPA, 100% NDPA or some combination of the two.
For this reason, York reports the combined result for n-nitrosodiphenylamine and diphenylamine for either of these compounds as a combined concentration as Diphenylamine.

If Total PCBs are detected and the target aroclors reported are "Not detected", the Total PCB value is reported due to the presence of either or both Aroclors 1262 and 1268 which are non-target aroclors for some regulatory lists.

2-chloroethylvinyl ether readily breaks down under acidic conditions. Samples that are acid preserved, including standards will exhibit breakdown. The data user should take note.

Certification for pH is no longer offered by NYDOH ELAP.

Semi-Volatile and Volatile analyses are reported down to the MDL, with values between the MDL and the RL being "J" flagged as estimated results.

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YORK ANALYTICAL LABORATORIES
120 RESEARCH DR.
STRATFORD, CT 06615
(203) 325-1371
FAX (203) 357-0166

Field Chain-of-Custody Record

NOTE: York's Std. Terms & Conditions are listed on the back side of this document. This document serves as your written authorization to York to proceed with the analyses requested and your signature binds you to York's Std. Terms & Conditions.

York Project No. 13E0447

YOUR Information	Report To:	Invoice To:	YOUR Project ID	Turn-Around Time	Report Type
Company: Parsons Brinckerhoff	Company: Parsons Brinckerhoff	Company: Parsons Brinckerhoff	183893A	RUSH - Same Day ☐	Summary Report
Address: One Penn Plaza 2nd FL	Address: One Penn Plaza 2nd FL	Address: One Penn Plaza 2nd FL		RUSH - Next Day ☐	Summary w/ QA Summary ✓
New York, NY 10119	New York, NY 10119	New York, NY 10119	Purchase Order No.	RUSH - Two Day ☐	CT RCP Package
Phone No. 212-465-5000	Phone No. 917 327 1382	Phone No. 917 327 1382		RUSH - Three Day ☐	CTRCP DQA/DUE Pkg
Contact Person: Greg Cellamare	Attention: Greg Cellamare	Attention: Greg Cellamare		RUSH - Four Day ☐	NY ASP A Package
E-Mail Address: cellamare@PBworld.com	E-Mail Address: cellamare@PBworld.com	E-Mail Address: cellamare@PBworld	Samples from: CT ___ NY ✓ NJ ___	Standard(5-7 Days) ✓	NY ASP B Package
					NJDEP Red. Deliv.
					Electronic Data Deliverables (EDD)
					Simple Excel
					NYSDEC EQuIS
					EQuIS (std)
					EZ-EDD (EQuIS)
					NJDEP SRP HazSite EDD
					GIS/KEY (std)
					Other
					York Regulatory Comparison Excel Spreadsheet
					Compare to the following Regs. (please fill in):

Print Clearly and Legibly. All Information must be complete. Samples will NOT be logged in and the turn-around time clock will not begin until any questions by York are resolved.

Robert Jensen
Samples Collected/Authorized By (Signature)

Robert Jensen
Name (printed)

A5-202

Matrix Codes
S - soil
Other - specify (oil, etc.)
WW - wastewater
GW - groundwater
DW - drinking water
Air-A - ambient air
Air-SV - soil vapor

Volatiles		Semi-Vols.	Pest/PCB/Herb	Metals	Misc. Org.	Full Lists	Misc.
8260 full	TICs	8270 or 625	8082PCB	RCRA8	TPH GRO	Pri.Poll.	Corrosivity
624	Site Spec.	STARS list	8081Pest	PP13 list	TPH DRO	TCL Organics	Reactivity
STARS list	Nassau Co.	BN Only	8151Herb	TAL	CT ETPH	TAL Met/CN	Ignitability
BTEX	Suffolk Co.	Acids Only	CT RCP	CT15 list	NY 310-13	Full TCLP	Flash Point
MTBE	Ketones	PAH list	App. IX	TAGM list	TPH 1664	Full App. IX	Sieve Anal.
TCL list	Oxygenates	TAGM list	Site Spec.	NJDEP list	Air TO14A	Part 360-Routine	Heterotrophs
TAGM list	TCLP list	CT RCP list	SPLP or TCLP	Total	Air TO15	Part 360-Baseline	TOX
CT RCP list	524.2	TCL list	TCLP Pest	Dissolved	Air STARS	Part 360-Expanded No Dissolved Metals	BTU/lb.
Arom. only	502.2	NJDEP list	TCLP Herb	SPLP or TCLP	Air VPH	Part 360-Expanded Full List	Aquatic Tox.
Halog. only	NJDEP list	App. IX	Chlordane	Indiv. Metals	Air TICs	NYCDEP Sewer	TOC
App. IX list	SPLP or TCLP	TCLP BNA	608 Pest	LIST Below	Methane	NYSDEC Sewer	Asbestos
8021B list		SPLP or TCLP	608 PCB		Helium	TAGM	Silica

Sample Identification	Date/Time Sampled	Sample Matrix	Choose Analyses Needed from the Menu Above and Enter Below	Container Description(s)
B2 Grab 10-12	5-10-13 09:00	S	VOC 8260	4 Vials
B2 0-22 COMP	5-10-13 09:30	GW	SVOC 8270, Pest 8081, PCBs 8082, Herb 8151, TAL metals	8 oz Jar

Comments

Preservation Check those Applicable: 4°C ___ Frozen ___ HCl ___ MeOH ___ HNO_3 ___ H_2SO_4 ___ NaOH ___ ZnAc ___ Ascorbic Acid ___ Other ___

Special Instructions
Field Filtered ☐
Lab to Filter ☐

Robert Jensen 5-10-13 14:48
Samples Relinquished By — Date/Time

[signature] 5/10 14:48
Samples Received By — Date/Time

Samples Relinquished By — Date/Time

[signature] 5-10-13 1855
Samples Received in LAB by — Date/Time

Temperature on Receipt: 3.8 °C

END OF ADDENDUM NO. 5

This Addendum Consists of Two hundred three (203) Pages

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NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

INFRASTRUCTURE DIVISION
BUREAU OF DESIGN

VOLUME 3 OF 3

PROJECT ID: P-USTA1

USTA UN AVENUE
CONNECTOR ROAD
RELOCATION

MERIDIAN ROAD - FROM EXISTING CONNECTOR ROAD TO
QUEENS MUSEUM OF ART
NEW CONNECTOR ROAD - FROM MERIDIAN ROAD TO
UNITED NATIONS AVENUE N

INCLUDING MERIDIAN ROAD WIDENING, NEW CONNECTOR ROAD,
SEWER, WATER MAIN, CATCH BASIN, ELECTRICAL,
TELECOMMUNICATION, STREET LIGHTING,
AND LANDSCAPE WORK

Together With All Work Incidental Thereto
BOROUGH OF QUEENS
CITY OF NEW YORK

Contractor.

Dated_____, **20**____