



PROJECT ID:

PV467BSRC

THE CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF PUBLIC BUILDINGS

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:

Renovation of the Bedford Stuyvesant Restoration Youth Arts Academy

LOCATION:
BOROUGH:
CITY OF NEW YORK

247 Herkimer Street
Brooklyn, NY 11216

CONTRACT NO. 1

GENERAL CONSTRUCTION

Department of Cultural Affairs

Huff and Gooden Architects, LLC



Date:

April 25, 2014

04-116

**BID BOOKLET
PART A**

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.



**Department of
Design and
Construction**

DR. FENIOSKY A. PEÑA-MORA
Commissioner

JOHN GODDARD
Agency Chief
Contracting Officer

February 23, 2015

CERTIFIED MAIL - RETURN RECEIPT REQUEST

Royal Enterprise and Development, Inc.
2341 Macdonald Avenue
Brooklyn, NY 11223

RE: FMS ID: PV467BSRC
E-PIN: 85014B015501
DDC PIN: 8502014PV0024C
Renovation of the Bedford Stuyvesant
Restoration Youth Arts Academy - Borough
of Brooklyn
NOTICE OF AWARD

Dear Contractor:

You are hereby awarded the above referenced contract based upon your bid in the amount of \$399,200.00 submitted at the bid opening on September 16, 2014. 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,

for *Roraine Holley*
John Goddard

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

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

PROJECT ID: PV467BSRC

Renovation of the Bedford Stuyvesant Restoration Youth Arts Academy
247 Herkimer Street
Brooklyn, NY 11216

Name of Bidder: Royal Enterprise and Development Inc

Date of Bid Opening: 9/10/14

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

Place of Business of Bidder: 2341 McDonald Ave

Bidder's Telephone Number: 718-376-3000 Bidder's Fax Number: 718-943-0366

Bidder's Email Address: Edyta@comcast.net

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: Edyta Karobloch
143 Oak Ave, Staten Island, NY 10306

Name and Home Address of Secretary: Edyta Karobloch
143 Oak Ave, Staten Island NY 10306

Name and Home Address of Treasurer: Edyta Karobloch
143 Oak Ave, Staten Island NY 10306

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PROJECT ID: PV467BSRC

TOTAL BID PRICE: In the space provided below, the Bidder shall indicate the total bid price in figures.

A. LUMP SUM PRICE - Total price for all labor and material for all required work, excluding item (B) set forth below. Total Price shall include all costs and expenses, i.e. labor, material overhead and profit for all the Work, described and shown in the drawings and specifications.

Total Price For Labor	Total Price for Material Sold and Delivered	Total Price for Item A=
\$ <u>172,110</u> +	\$ <u>212,140</u>	\$ <u>384,250</u>
		<u>\$15,000.00</u>

B. ALLOWANCE for Incidental Asbestos Abatement
(Section 028013 of the Specifications)

TOTAL BID PRICE (Add A + B)
(a/k/a BID PROPOSAL)

\$ 399,250
9/16/14

BIDDER'S SIGNATURE AND AFFIDAVIT

*** SUBCONTRACTOR IDENTIFICATION:** You MUST complete and submit the form entitled "Bidder's Identification of Subcontractors" (page 19) at the time you submit your bid. You must submit this form in a separate, sealed envelope (BID ENVELOPE #2). In the event an award of contract is not made to the Bidder, the Bidder hereby authorizes the Agency to shred the form entitled "Bidder's Identification of Subcontractors". ☒ Yes ☐ No

Bidder: Royal Enterprise and Development Inc

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

[Signature]
Secretary of Corporate Bidder

Attest:
(Corporate Seal)

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

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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: Royal Enterprise and Development Inc
Address: 2341 McDonald Ave Zip Code: 11223
City: Brooklyn State: NY

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
26-2112493

By: [Signature]
Signature:

Title: President

If a corporation, place seal here

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

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

BID FORM (TO BE NOTARIZED)

AFFIDAVIT WHERE BIDDERS IS AN INDIVIDUAL

STATE OF NEW YORK, COUNTY OF _____

ss:

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 BIDDERS IS A PARTNERSHIP

STATE OF NEW YORK, COUNTY OF _____

ss:

I am a member of _____ the firm described in and which executed the foregoing bid.
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 BIDDERS IS A CORPORATION

STATE OF NEW YORK, COUNTY OF Kings

ss:

I am the Edyfa Khoblood president 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
15 day of September, 20014

SUBSCRIBED & SWORN TO BEFORE ME
On September 15, 20014

Notary Public

Daniella A. Kirfield
Notary Public, State of New York
No 01KG5503297
Qualified in Kings County
My Commission Expires 10/28/2014

CONTRACT 1 - GENERAL CONSTRUCTION WORK

NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

Project: Youth Arts Academy Renovation
Location: 247 Herkimer Street, Brooklyn, NY 11216
Bllder: *Royal Enterprises and Development*

DDC ID: PV467BSRC
Sponsor Agency: Department of Cultural Affairs

CSI Number	Description	Quantity	Unit	Unit Cost of Material	Total Cost of Material	Unit Cost of Labor	Total Cost of Labor	Total Cost: Materials and Labor
CONTRACT 1 - GENERAL CONSTRUCTION WORK								
01 0000	GENERAL REQUIREMENTS							
01 0000	GENERAL REQUIREMENTS							
	Mobilization	1	LS	480	480	60	120	600
	Temporary Water Facilities							
	Subtotal							
02 0000	EXISTING CONDITIONS							
02 4119	SELECTIVE STRUCTURE DEMOLITION							
	Remove Existing Wall Finish / Furring	2335	SF	0	0	60	600	600
	Remove Existing Partition	830	SF	0	0	60	500	500
	Remove Existing Floor / Sub Flooring	180	SF	0	0	60	500	500
	Remove Floor Finish / Sub Flooring	818	SF	0	0	60	500	500
	Remove Suspended Acoustical Ceiling Tile System	6	EA	0	0	60	500	500
	Remove Doors/ Frames	1	EA	0	0	60	500	500
	Remove Shower Door	30	LF	0	0	60	600	600
	Remove Counter	14	EA	0	0	60	500	500
	Remove Toilet Partitions	1	LS	0	0	60	500	500
	Remove Toilet Accessories	4	EA	0	0	60	1000	1000
	Remove Mirrors	4	LS	0	0	60	1000	1000
	Miscellaneous Removals	1	LS	0	0	60	1200	1200
	Temporary Protection	1	LS	6	6	60	6000	6000
	Rubbish Disposal							
	Subtotal							
02 8213	ASBESTOS ABATEMENT							
	Asbestos Abatement	360	LS	25	8750	100	12650	21400
	Subtotal	360		25	8750	100	12650	21400

CONTRACT 1 - GENERAL CONSTRUCTION WORK

NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

Project: Youth Arts Academy Renovation
 Location: 247 Herkimer Street, Brooklyn, NY 11216
 Bidder: *Royal Underpinnings and Development*

DDC ID: PV487BSRC

Sponsor Agency: Department of Cultural Affairs

SI Number	Description	Quantity	Unit	Unit Cost of Material	Total Cost of Material	Unit Cost of Labor	Total Cost of Labor	Total Cost: Materials and Labor
05 0000	METALS							
05 5000	METAL FABICATIONS							
	Metal Fabrications		LS					
	Subtotal							
06 0000	WOOD, PLASTICS AND COMPOSITES							
06 1000	ROUGH CARPENTRY							
	Miscellaneous Carpentry	1	LS			60	1000	1000
	Pl. Lam. Counter (Wrap Edge of Plywood) at Lavatory	28	LF	100	2800	60	4000	6800
	Subtotal				2800		5000	9800
06 1600	SHEATHING (included w/ Section 092216)							
07 0000	THERMAL AND MOISTURE PROTECTION							
07 2100	THERMAL INSULATION							
	Moisture Barrier at Floor	818	SF	15	4090	60	3000	7090
	Subtotal				4090		3000	7090
08 0000	OPENINGS							
08 1213	HOLLOW METAL FRAMES (included w/ Section 081416)							
08 1416	FLUSH WOOD DOORS							
	New Door/ Frame/ Hardware:							
	Wood Door 2'-10" x 7'-0"	5	EA	500	2500	60	1500	4000
	Subtotal				2500		1500	4000
08 7100	DOOR HARDWARE (included w/ Section 081416)							

CONTRACT 1 - GENERAL CONSTRUCTION WORK

NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

Project: Youth Arts Academy Renovation

Location: 247 Herkimer Street, Brooklyn, NY 11216

Bidder:

Royal Cities Inc and Development

DDC ID: PV467BSRC

Sponsor Agency: Department of Cultural Affairs

CSI Number	Description	Quantity	Unit	Unit Cost of Material	Total Cost of Material	Unit Cost of Labor	Total Cost of Labor	Total Cost: Materials and Labor
09 0000	FINISHES							
09 2216	NON-STRUCTURAL METAL FRAMING							
	Type A - (1) Layer 5/8" High Abuse GWB One Side Vapor Barrier, Acoustical Insulation - to exist. wall	1835	SF	10	18,380	60	1000	25,380
	Type B - Add (1) Layer 1/2" Cementitious Backer Board	202	SF	10	2020	60	7000	9,020
	Type D - (1) Layer 5/8" High Abuse GWB each side Mtl. studs, Insulation	73	SF	10	730	60	4000	4,730
	New studs as required for new GWB on exist. wall	1	LS	970		60	1800	2,770
	<i>Type E 1 layer 1/2" abuse</i>	170	LS	10	1700	60	2100	3200
	Subtotal				22,800		22,000	44,800
09 2900	GYPSON BOARD							
	Misc. Work on First Floor after MEP Work	1	LS	500	500	60	500	1000
	Paint Wall	2074	SF	10	20,740	60	10,000	30,740
	Paint GWB Reveal	271	LF		2,710	60	1,000	3,710
	Paint Doors	3	EA		600	60	1,500	2,100
	Plywood Subfloor	818	SF		12,270	60	2,000	14,270
	Subtotal				36,820		16,000	52,820
09 3000	TILING							
	1/2" Cementitious Backer Board	261	SF	20	5,220	60	5000	10,220
	1"x1" Mosaic Tile Floors	638	SF	20	12,760	60	6000	18,760
	1"x1" Ceramic Tile Wainscot	261	SF	20	5,220	60	6000	11,220
	Mosaic Tile Base	119	LF	20	2,380	60	3000	5,380
	Subtotal				25,580		20,000	45,580
09 5113	ACOUSTICAL PANEL CEILINGS							
	Acoustic Tile Ceiling	726	SF	10	7,260	60	8000	15,260
	6" Lighting Reveal - 1/2" GWB on Mtl. Studs	89	LF	5	445	60	2000	2,445
	3" Reveal Channel Trim - 6" Ht	182	LF	5	910	60	2000	2,910
	Miscellaneous Cutting/ Patching/ Painting	1	LS	200	200	60	6000	5,200
	Subtotal				8,815		20,000	28,815



CONTRACT 1 - GENERAL CONSTRUCTION WORK

Project: Youth Arts Academy Renovation
Location: 247 Herkimer Street, Brooklyn, NY 11216
Bidder: *Boyd Interpro*

DDC ID: PV467BSRC
Sponsor Agency: Department of

Herkimer Street, Brooklyn, NY 11216
Royal Underpinn and Development

CSI Number	Description	Quantity	Unit	Unit Cost of Material	Total Cost of Material	Unit Cost of Labor	Total Cost of Labor	Total Cost: Materials and Labor
09 6519	RESILIENT TILE FLOORING							2130
	VCT	182	SF	8.73	1630	60	500	2130
	Rubber Base	69	LF	5	345	60	500	845
	Subtotal				1975		1000	2975
10 0000	SPECIALTIES							
10 1400	INTERIOR SIGNAGE							
	Signage		LOC	200	1000	60	800	1800
	Subtotal				1000		800	1800
10 2113.17	PHENOLIC CORE TOILET COMPARTMENTS							
	Toilet Partitions: Handicapped Phenolic	4	EA	1000	4000	60	200	4200
	Toilet Partitions: Standard Phenolic	6	EA	800	2400	60	400	2800
	Privacy Screen	2	EA	800	1600	60	200	1800
	Subtotal				8000		800	8800
10 2813.13	COMMERCIAL TOILET ACCESSORIES							
	Grab Bar	6	SET	50	300	60	200	500
	Mirror on Wood Frame	64	SF	100	6400	60	800	6900
	Toilet Paper Dispensers	10	EA	100	1000	60	100	1600
	Sanitary Napkin Disposal Unit	6	EA	100	600	60	100	700
	Paper Tower Dispenser and Waste Receptacle	4	EA	100	400	60	100	500
	Toilet Seat Cover Dispenser	10	EA	120	1200	60	100	1300
	Deck Mounted Soap Dispensers	10	EA	120	1200	60	100	1300
	Electric Hand Dryer	4	EA	300	1200	60	100	1300
	Subtotal				12,100		1,000	13,100
12 0000	FURNISHINGS							
12 3623.13	PLASTIC-LAMINATE-CLAD COUNTERTOPS (Included w/ 061000)							

CONTRACT 1 - GENERAL CONSTRUCTION WORK

NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

Project: Youth Arts Academy Renovation
Location: 247 Herkimer Street, Brooklyn, NY 11216
Bidder: *Leval Citegm and Develop*

DDC ID: PV467BSRC
Sponsor Agency: Department of Cultural Affairs

CSI Number	Description	Quantity	Unit	Unit Cost of Material	Total Cost of Material	Unit Cost of Labor	Total Cost of Labor	Total Cost: Materials and Labor
22 0000	220500 COMMON WORK RESULTS FOR PLUMBING (included w/ 220500)							
22 0500	Plumbing Demolition:							
	Remove existing fixtures	24	EA	20	480	60	1400	1880
	Remove existing shower w/ assoc. piping	1	LS	20	500	60	1400	1900
	Pipe cut and temporary cap	25	LS	20				
	Miscellaneous plumbing demolition (incl. carting and disposal)		LS					2240
	Disinfect, clean and flush	200	LS	10	2000	60	240	2240
	System ID/ Valve Tags		LS					
	Material Distribution		LS					
	Miscellaneous job expenses		LS		2480		3040	5520
	Subtotal							
22 0523	GENERAL-DUTY VALVES FOR PLUMBING PIPING (included w/ 220500)							
22 0529	HANGERS AND SUPPORTS FOR PLUMBING, PIPING AND EQUIPMENT							
	Miscellaneous pipe supports	300	LS	10	3000	60	520	3520
	Subtotal				3000		520	3520
22 0533	HEAT TRACING FOR PLUMBING PIPING							
	Heat tracing		LF					
	Subtotal							
22 0700	PLUMBING INSULATION							
	Insulation	600	LF	8	4800	60	700	5500
	Subtotal				4800		700	5500

NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

CONTRACT 1 - GENERAL CONSTRUCTION WORK

Project: Youth Arts Academy Renovation

Location: 247 Herkimer Street, Brooklyn, NY 11216

Bidder:

401M Enterprise and Development

DDC ID: PV467BSRC

Sponsor Agency: Department of Cultural Affairs

CSI Number	Description	Quantity	Unit	Unit Cost of Material	Total Cost of Material	Unit Cost of Labor	Total Cost of Labor	Total Cost: Materials and Labor
22 1116	PLUMBING PIPING							
	Domestic Water Pipe:							
	1/2" - 3/4" Dia.	220	LF	20	4400	60	16000	20400
	Tie-in	20	EA	20	400	60	1200	1600
	Subtotal				4800		17200	22000
22 1119	PLUMBING SYSTEM ACCESSORIES							
	Sanitary Waste and Vent:							
	4" Dia.	300	LF	10	3000	60	6900	9900
	2" Dia.	600	LF	10	6000	60	6700	12700
	Tie-in (first floor connection included in GC)	30	EA	10	300	60	1000	1300
	Subtotal				9900		13600	23500
22 4000	PLUMBING FIXTURES							
	Water Closet	12	EA	200	2400	60	2000	4400
	Water Closet (ABBAS)	2	EA	200	400	60	330	730
	Urinal	10	EA	200	2000	60	2000	4000
	Lavatory	25	EA	100	2500	60	2330	4830
	Fixture rough-in				7300		6660	13960
	Subtotal							
23 0000	HEATING, VENTILATING, AND AIR CONDITIONING							
23 0500	COMMON WORK RESULTS FOR HVAC							
	HVAC Demolition:							
	Remove existing roof exhaust fan		EA					
	Remove existing exhaust grille		EA					
	Remove existing unit heater		EA					
	Remove existing T-stat and wiring		EA					
	Disconnect and cap ex. ductwork as indicated (temporary)		EA					
	Miscellaneous HVAC demolition (incl. capping and disposal)		LS					

Project: Youth Arts Academy Renovation

Location: 247 Herkimer Street, Brooklyn, NY 11216

Bidder:

Royal Gates Inc and Development

CONTRACT 1 - GENERAL CONSTRUCTION WORK

DDC ID: PV487BSRC

Sponsor Agency: Department of Cultural Affairs

CSI Number	Description	Quantity	Unit	Unit Cost of Material	Total Cost of Material	Unit Cost of Labor	Total Cost of Labor	Total Cost: Materials and Labor
	Roof curb	1	EA	750	710	48	360	1100
	Miscellaneous duct and equipment supports	10	LS	15	110	45	720	830
	Cutting, patching and firestopping		LS					
	Material Distribution		LS					
	Miscellaneous job expenses		LS					
	Subtotal				900		1080	1980
23 0513	COMMON MOTOR REQUIREMENTS FOR HVAC EQUIPMENT							
	Fan:							
	EF-1 - 1200 CFM, 1/2 HP	1	EA	2500	2100	480	360	2860
	Hook-up fan		EA					
	Electric Baseboard w/ Built-in Thermostat: EBH-1	5	EA	1780		45	360	2110
	Galvanized steel duct	300	LBS	210	7800	45	5400	12900
	Exhaust Grille	6	EA	300	1800	45	360	2160
	Cable operated volume damper		EA					
	Small motorized damper		SF					
	Access door	2	EA	175	350	45	360	710
	Flexible duct (5' long)		EA					
	Tie-in duct		EA					
	Miscellaneous sheetmetal requirements		LS					
	Subtotal							
23 0548	VIBRATION CONTROLS FOR HVAC PIPING AND EQUIPMENT (included w/ 230513)							
23 0553	IDENTIFICATION FOR HVAC PIPING AND EQUIPMENT (included w/ 230513)							
23 0593	TESTING FOR HVAC (included w/ 230593.1)	1				45	1500	

23-7

12,160

8340

20,740
24,220



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

Project: Youth Arts Academy Renovation
Location: 247 Herkimer Street, Brooklyn, NY 11216
Bidder: *Boyle Construction and Develop*

CONTRACT 1 - GENERAL CONSTRUCTION WORK

DDC ID: PV467BSRC
Sponsor Agency: Department of Cultural Affairs

CSI Number	Description	Quantity	Unit	Unit Cost of Material	Total Cost of Material	Unit Cost of Labor	Total Cost of Labor	Total Cost: Materials and Labor
23 0593.1	BALANCING FOR HVAC							
	Testing and balancing		LS					
	Subtotal							
23 0701	DUCTWORK INSULATION (included w/ 230513)							
23 0900	INSTRUMENTATION AND CONTROL FOR HVAC							
	Fan		EA					
	motorized damper		EA					
	Subtotal							
23 0993	SEQUENCE OF OPERATIONS FOR HVAC CONTROLS (included w/ 230900)							
23 3113	METAL DUCTS (included w/ 230513)							
23 3300	AIR DUCT ACCESSORIES (included w/ 230500)							
23 3301	DAMPERS (included w/ 230513)							
23 3416	CENTRIFUGAL HVAC FANS (included w/ 230513)							
23 3713	DIFFUSERS, REGISTERS AND GRILLES (included w/ 230513)							
26 0000	ELECTRICAL							
26 0500	COMMON WORK RESULTS FOR ELECTRICAL							
	Temporary Lighting and Power		LS					
	Electric Demolition		LS					
	Miscellaneous job expenses		LS					

CONTRACT 1 - GENERAL CONSTRUCTION WORK

NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

Project: Youth Arts Academy Renovation
 Location: 247 Herkimer Street, Brooklyn, NY 11216
 Bidder: *Lloyd Enterprises and Assoc*

DDC ID: PV467BSRC

Sponsor Agency: Department of Cultural Affairs

CSI Number	Description	Quantity	Unit	Unit Cost of Material	Total Cost of Material	Unit Cost of Labor	Total Cost of Labor	Total Cost: Materials and Labor
	Electrical baseboard heaters	3	EA	600	1800	60	1200	3000
	3/4" conduit		LF					
	10 AWG		LF		1800		1200	3000
	Subtotal							
	LOW VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES							
26 0519	Feeder:	100	LF	10	1000	60	600	1600
	1 1/4" conduit	100	LF	10	1000	60	600	1600
	6 AWG		LF		2000		1000	3000
	10 AWG							
	Subtotal							
	GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS							
26 0526	(Included w/ 260500)							
	HANGERS AND SUPPORTS FOR ELECTRICAL SYSTEMS							
26 0529	(Included w/ 260500)							
	RACEWAY AND BOXES FOR ELECTRICAL SYSTEMS (Included w/ 262726)							
26 0533	BOXES (Included w/ 260500)							
26 0534	IDENTIFICATION FOR ELECTRICAL SYSTEMS (Included w/ 260500)							
26 0553	PANELBOARDS							
26 2413	Switchgear and Distribution:							
	Panelboard (60A MB)	1	EA	1500	1500	60	600	2000
	NEMA 1 60A disconnect	1	EA	500	500	60	600	1000
	Subtotal				2000		1000	3000



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

Project: Youth Arts Academy Renovation
Location: 247 Herkimer Street, Brooklyn, NY 11216
Bidder: *Royal Contractors and Dev*

CONTRACTOR'S BID BREAKDOWN FORM

CONTRACT 1 - GENERAL CONSTRUCTION WORK

DDC ID: PV467BSRC

Sponsor Agency: Department of Cultural Affairs

CSI Number	Description	Quantity	Unit	Unit Cost of Material	Total Cost of Material	Unit Cost of Labor	Total Cost of Labor	Total Cost: Materials and Labor
	100 AMP Tap		EA					
	Subtotal							
26 2726	WIRING DEVICES							
	Single pole key switches	20	EA	15	200	60	800	1000
	Occupancy sensors	4	EA	10	40	60	200	240
	Duplex REC	40	EA	20	800	60	1200	2000
	GFCI REC	40	EA	16.5	660	60	1200	1860
	Hand dryers	4	EA	100	400	60	100	500
	3/4" conduit	400	LF	10	4000	60	480	4480
	12 AWG	400	LF	10	4000	60	480	4480
	Subtotal				10100		4400	15500
26 5100	INTERIOR LIGHTING							
	2x2 Acrylic lens fixture		EA		8000	60	500	1000
	2x2 Acrylic lens fixture w/EM ballast		EA		500	60	500	1000
	LED lighting		LF		300	60	500	1000
	3/4" conduit		LF		500	60	500	1000
	12 AWG		LF		500	60	500	1000
	Subtotal				2600		2600	5200
	TOTAL CONTRACT 1 - GENERAL CONSTRUCTION WORK				212140		172110	384250

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
460 W 22 Street Manhattan	demo contr	\$ 760,000	2/14	Fenwick Inc (718) 353 4778	Kell White
90 Mulberry St Manhattan	remodely bawty	\$ 155,000	2/14	Alan Pong (612) 349 0228 (212) 629-4480	David Hu
29 Hared Court Brooklyn	remodely capanty philly	\$ 129,000	10/12	Robin Algren (718) 314-4548	Robert Markemo (917) 715-2837
349 E 19 St. Manhattan	tile pavir	\$ 89,000	present	Brenda Sclat (310) 980-8833	
216 Street Manhattan	griping paving	\$ 1700,000	5/11	Elis. Ari	Rand Ruff 212-242-2981
140 Court St Brooklyn	cont	\$ 140,000	5/13	Vinny Fantana	Sulamiro
		max if	required		

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Tax ID #: _____

APT E-
PIN#:

85014B0155

Contract # 1 - General Construction Work

SCHEDULE B - MWBE Utilization Plan**Part I: MWBE Participation Goals**

Part I to be completed by contracting agency

Contract Overview

APT E-Pin # 85014B0155 FMS Project ID#: PV467BSRC

Project Title/Agency Renovation of the Bedford Stuyvesant Restoration Youth Arts Academy

PIN # 8502014PV0024C

Bid/Proposal Response Date: TUESDAY, SEPTEMBER 2, 2014

Contracting Agency Department of Design and Construction

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

Contact Person Norma Negrón Title MWBE Liaison & Compliance Analyst

Telephone # (718) 391-1502 Email negronn@ddc.nyc.gov

Project Description (attach additional pages if necessary)

This Project consists of the partial renovation of the second and third floors of the Youth Arts Academy (YAA) for the NYC Department of Cultural Affairs (DCA). The total area of renovation is approximately 1,000 square feet.

MWBE Participation Goals for Services

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

Prime Contract Industry: Construction

Group	Percentage	
<u>Unspecified *</u>	<u>40</u>	<u>%</u>
or		
<u>Black American</u>	<u>Unspecified</u>	<u>%</u>
<u>Hispanic American</u>	<u>Unspecified</u>	<u>%</u>
<u>Asian American</u>	<u>Unspecified</u>	<u>%</u>
<u>Women</u>	<u>Unspecified</u>	<u>%</u>
<u>Total Participation Goals</u>	<u>40</u>	<u>%</u>

Line 1

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

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Module B - Part II: M/WBE Participation Plan

to be completed by the bidder/proposer:

Note: For Non-M/WBE Prime Contractors who will NOT subcontract any services and will self-perform the entire contract, you must FULL waiver by completing the Waiver Application on pages 9 and 9a and timely submitting it to the contracting agency pursuant to to Prospective Contractors. Once a FULL WAIVER is granted, it must be included with your bid or proposal and you do not have complete or submit this form with your bid or proposal.

Section I: Prime Contractor Contact Information

FMS Vendor ID #

000315 0161

Contract Person

Edyta Knobloch

Business Name

Royal Enterprise and Development

Address

2341 McDonald Ave, Brooklyn NY 11223

Telephone #

718-376-3000

Email

Edyta.nyc@aol.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.

Calculate the total dollar value of your total bid that you agree will be awarded to M/WBE subcontractors for services and/or credited to an M/WBE prime contractor or Qualified Joint Venture.

Please review the Notice to Prospective Contractors for more information on how to obtain credit for M/WBE participation.

Total Bid/Proposal Value	Agency Total Participation Goals (Line 1, Page 6)	Calculated M/WBE Participation Amount
384,250 ⁰⁰	62% M/WBE participation	237.960 ⁰⁰
\$	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.

Calculate the total dollar value of your total bid that you agree will be awarded to M/WBE subcontractors for services and/or credited to an M/WBE prime contractor or Qualified Joint Venture.

Please review the Notice to Prospective Contractors for more information on how to obtain credit for M/WBE participation.

Total Bid/Proposal Value	Adjusted Participation Goal (From Partial Waiver)	Calculated M/WBE Participation Amount
\$	X	\$ Line 3

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 a
- ☐ 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? % _____

Enter brief description of the type(s) and dollar value of subcontracts for all services and materials subcontracted awarded under contract. For each line include service, dollar value, and whether subcontractor is MBE, WBE, and the time period in which subcontract was awarded. Use additional sheets if necessary.

1. Mechanical - HVAC

2. Plumbing

3. Electrical

4. Asbestos Removal

5. _____

6. _____

7. _____

8. _____

9. _____

10. _____

11. _____

12. _____

13. _____

14. _____

15. _____

16. _____

17. _____

✓ Scopes of Subcontract Work

Section V: Vendor Certification and Required Affirmations

I hereby:

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;

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

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

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

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 [Signature]

Print Name EDNA KNOBLACH

Date 9/14/15

Title President

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

Contract Overview

Tax ID # 26-2112493 FMS Vendor ID # 0003150161
 Business Name Royal Enterprise and Development
 Contact Name Edyta Kinsblat Telephone # 949-245-4144 Email edytanyc@aol.com
 Type of Procurement ☒ Competitive Sealed Bids ☐ Other Bid/Response Due Date 7/16/14
 APT E-PIN # (for this procurement) _____ Contracting Agency _____

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

40 % Agency M/WBE Participation Goal
 Proposed M/WBE Participation Goal as anticipated by vendor seeking waiver
40 % 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. <u>N/A</u> Total Contract Amount \$ _____ Item of Work Subcontracted and Value of subcontract _____	AGENCY _____ Total Amount Subcontracted \$ _____ Item of Work Subcontracted and Value of subcontract _____	DATE COMPLETED _____ Item of Work Subcontracted and Value of subcontract _____
CONTRACT NO. _____ Total Contract Amount \$ _____ Item of Work Subcontracted and Value of subcontract _____	AGENCY _____ Total Amount Subcontracted \$ _____ Item of Work Subcontracted and Value of subcontract _____	DATE COMPLETED _____ Item of Work Subcontracted and Value of subcontract _____
CONTRACT NO. _____ Total Contract Amount \$ _____ Item of Work Subcontracted and Value of subcontract _____	AGENCY _____ Total Amount Subcontracted \$ _____ Item of Work Subcontracted and Value of subcontract _____	DATE COMPLETED _____ 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 Chen Dance Cater ENTITY private DATE COMPLETED 3/12
Manager at entity that hired vendor (Name/Phone No./Email) dianlang e chendana cater.org
Total Contract Amount \$ 154,000 Total Amount Subcontracted \$ 64,000
Type of Work Subcontracted electrical, plumbing

TYPE OF Contract construction AGENCY/ENTITY Fanuka DATE COMPLETED 2/13
Manager at agency/entity that hired vendor (Name/Phone No./Email) 718-353-4518
Total Contract Amount \$ 760,000 Total Amount Subcontracted \$ 480,000
Item of Work Subcontracted and Value of subcontract plumbing Item of Work Subcontracted and Value of subcontract plumbing

TYPE OF Contract contract AGENCY/ENTITY Zall DATE COMPLETED 10/12
Manager at entity that hired vendor (Name/Phone No./Email) 718-366-1092
Total Contract Amount \$ 1,700,000 Total Amount Subcontracted \$ 900,000
Item of Work Subcontracted and Value of subcontract electrical, plumbing Item of Work Subcontracted and Value of subcontract electrical, plumbing

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: [Signature]
Print Name: EDITH KAOBLOU

Date: 9/12/13
Title: president

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BIDDER'S IDENTIFICATION OF SUBCONTRACTORS

Project ID: PV467BSRC

SUBMISSION: In addition to its Bid (Bid Envelope # 1), the Bidder must, at the time of the bid, complete and submit this form in a separate, sealed envelope (Bid Envelope # 2). To complete this form, the Bidder must identify the subcontractors it intends to use for the work listed below, as well as the dollar amount to be paid to each subcontractor. Failure to complete this form and submit it in a separate, sealed envelope will result in the disqualification of the bid as non-responsive.

The Bidder intends to use the following subcontractors. If the Bidder intends to do any of the work referenced below with its own forces, the Bidder should complete this form using its own name. If multiple subcontractors for any trade are proposed, Bidder may submit multiple copies of this form.

1. **PLUMBING CONTRACTOR:**

ORBIT Plumbing & Heating Inc
(Print Name)

Agreed Amount To Be Paid To Subcontractor: \$ \$76,000.00

2. **HVAC CONTRACTOR:**

Continental HVAC
(Print Name)

Agreed Amount To Be Paid To Subcontractor: \$ 24,220.00

3. **ELECTRICAL CONTRACTOR:**

Alpha Electric USA
(Print Name)

Agreed Amount To Be Paid To Subcontractor: \$ 29,500.00

BIDDER'S SIGNATURE: The Bidder must sign this form in the space provided below:

Name of Bidder: Royal Enterprise and Dev

By: [Signature]
Signature of Partner or Corporate Officer

Print Name: EDYTA KALOBLOCK

Title: President

BIDDER'S IDENTIFICATION OF SUBCONTRACTORS

NOTICE TO BIDDERS

SUBMISSION: The Bidder must, at the time of the bid, submit the form on the next page ("BIDDER'S IDENTIFICATION OF SUBCONTRACTORS"). This form must be submitted in a separate, sealed envelope (BID ENVELOPE #2). Failure to do so will result in the disqualification of the bid as non-responsive.

Please be advised that pursuant to GML § 101(5) the Bidder is required to submit with its bid the names of subcontractors it intends to use to perform the following work on this contract, as well as the agreed-upon amount to be paid to each:

- plumbing and gas fitting;
- steam heating, hot water heating, ventilating and air conditioning apparatus; and
- electric wiring and standard illuminating fixtures.

NOTE: This project may not involve all of the above listed subcontractors. Please see the form on the next page which indicates the subcontractors required for this Project.

The list of subcontractors is to be submitted in a separate sealed envelope by completing the form on the next page entitled "Bidder's Identification of Subcontractors". This form provides for the identification of any subcontractors intended to be used in any of the three trades listed above. If bidder intends to use its own forces for any of the above listed work, bidder should so indicate on the form.

Failure to submit the completed form on the next page ("Bidder's Identification of Subcontractors") that includes the names of subcontractors and the agreed upon amounts to be paid to such subcontractors will render the bid non-responsive.

PLEASE NOTE: for any contract that is subject to M/WBE Participation Goals under Section 6-129 of the Administrative Code of the City of New York, if the bidder's intention to use its own forces to do any of the above-referenced work would result in Bidder's failure to attain the Participation Goals identified in the M/WBE Utilization Plan, the bid will be non-responsive unless the bidder requests and obtains a full or partial waiver of the Participation Goals (M/WBE Utilization Plan, Part III) in advance of bid submission. For more information see Notice to All Prospective Contractors, Participation by Minority-Owned and Women-Owned Business Enterprises in City Procurement.

After the low bid is announced, the sealed list submitted by the low bidder will be opened and the names of the subcontractors will be announced. The sealed lists of subcontractors submitted by all other bidders shall be maintained by the Agency unopened unless such bidder shall become the low bidder (e.g., the initial low bidder is found non-responsive). All unopened lists of subcontractors shall be returned to the bidders unopened after contract award, unless the bidder has given the agency permission to shred the form.

After bid submission, any change of subcontractor or agreed-upon amount to be paid to each shall require approval of the Agency upon a showing of a legitimate construction need which shall include, but not be limited to, a change in project specifications, a change in project material costs, a change to subcontractor status as determined pursuant to §222 (2)(e) of the Labor Law, or if the subcontractor has become otherwise unwilling, unable or unavailable to perform the subcontract.

Please note that the Agency will not award this contract for an amount greater than \$3 million.

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: ROYAL ENTERPRISE AND DEVELOPMENT INC

DDC Project Number: PIN # 85014 B0155

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

Company has previously worked for DDC YES ✓ NO

2. Type(s) of Construction Work

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

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
<u>2013</u>	<u>0.00</u>	

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

4. OSHA Information:

☐ YES ☒ NO

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

☐ YES ☒ NO

Contractor has had an incident requiring OSHA notification within 8 hours (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.

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

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)

YES NO Contractor previously audited by the DDC Office of Site Safety.

DDC Project Number(s): _____, _____, _____

YES NO Accident on previous DDC Project(s).

DDC Project Number(s): _____, _____, _____

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

DDC Project Number(s): _____, _____, _____

Date: 9/12/16

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

Title: EDITH KNOBLOCK, president.

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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
15 day of 09, 2014

Notary Public

Dated:

SUBSCRIBED & SWORN TO BEFORE ME
On September 15, 20014

Danielle A. Kinold
Notary Public, State of New York
No. 01K1568297
Qualified in Kings County
My Commission Expires 10/26/2014

Principal Questionnaire

This section refers to the most recent principal questionnaire submissions.



	Principal Name	Date of signature on last full Principal Questionnaire	Date(s) of signature on submission of change
1	EDYTA KNOBLOCH	6/28/2012	
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:

EDYTA KNOBLOCH
Name (Print)
President
Title
Royal Enterprise and Development Inc.
Name of Submitting Entity
[Signature]
Signature
12/1/14
Date

Notarized By:

[Signature]
Notary Public
Kings County
County License Issued
01K15068297
License Number

Sworn to before me on: 12.01.14
Date

SUBSCRIBED & SWORN TO BEFORE ME
On December 01, 2014

Mayor's Office of Contract Services
253 Broadway, 9th Floor New York, NY 10007
Phone: 212 788 0018 Fax: 212 788 0049

Daniella A. Kirfeld
Notary Public, State of New York
No 01K15068297
Qualified in Kings County
My Commission Expires 10/28/2018

Certificate of No Change Form

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

I, EDYTA KNOBLOCH, 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: Royal Enterprise and Development Inc

Vendor's Address: 2341 McDonald Ave, Brooklyn NY 11223

Vendor's EIN or TIN: 0003150161 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: 6/28/2012

Signature date on change submission for the submitting vendor: _____

PROJECT ID: PV467BSRC

CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF PUBLIC BUILDINGS

BID BOOKLET

TABLE OF CONTENTS

PART A	page
1. Special Notice to Bidders.....	2
2. M/WBE Program: M/WBE Utilization Plan.....	5
3. Apprenticeship Program Requirements.....	10
4. Bid Form.....	12
5. Affirmation.....	17
6. Bidder's Identification of Subcontractors.....	18
7. Bid Bond.....	20
8. Contractor's Bid Breakdown	23
9. Attachment 1 - Bid Information.....	24
 PART B	
10. Safety Questionnaire.....	25
11. Pre-Award Process	28
12. Project Reference Form.....	30
13. Contract Certificate.....	33
14. Confirmation of Vendex Compliance.....	34
15. Iran Divestment Act Compliance Report.....	35
16. Construction Employment Report.....	37

**CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF PUBLIC BUILDINGS
SPECIAL NOTICE TO BIDDERS
BID SUBMISSION REQUIREMENTS**

THE BID SHALL CONSIST OF TWO (2) SEPARATE, SEALED ENVELOPES. THE DOCUMENTS THAT MUST BE COMPLETED AND INCLUDED IN EACH SEPARATE ENVELOPE ARE LISTED BELOW.

BID ENVELOPE #1: Bid Envelope #1 shall contain the following items:

- Bid Form, including Affirmation
- Bid Security (if required, see page 24)
- Schedule B: M/WBE Utilization Plan (if participation goals have been established)

BID ENVELOPE #2: Bid Envelope #2 shall contain **ONLY** the following item:

- Bidder's Identification of Subcontractors (see pages 18 & 19)

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

BID ENVELOPE #1: In addition to the items listed above, Bid Envelope #1 shall also contain the following items: **DO NOT** Include the items listed below in Bid Envelope #2.

- Bid Breakdown (if required, see page 23)
- Safety Questionnaire
- Construction Employment Report (if bid is \$1,000,000 or more)
- Contract Certificate (if bid is less than \$1,000,000)
- Confirmation of Vendex Compliance
- Bidder's Certification of Compliance with Iran Divestment Act
- Special Experience Requirements Qualification Form (if required, see pages 3, 4)
- Apprenticeship Program Requirements (if required, see pages 10, 11)
- Any Addenda issued prior to the receipt of bids

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

- NOTES:**
- (1) All of the above referred to blank forms to be completed and submitted with the bid are included in the BID BOOKLET.
 - (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:** 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.
 - (5) **SPECIAL EXPERIENCE REQUIREMENTS FOR ASBESTOS:** The Bidder is advised that this contract contains strict requirements regarding the prior experience and licensing of the subcontractor who will perform any required asbestos abatement work. These special experience requirements are set forth in the section of the specifications which describes any required asbestos abatement work.

SPECIAL EXPERIENCE REQUIREMENTS

Bidders are advised that the special experience requirements set forth below apply to the General Construction Contractor if a check mark is indicated before the word "Yes". Compliance with these special experience requirements will be determined solely by the City. Failure to meet these special experience requirements will result in the rejection of the bid as non-responsive.

General Construction Contractor	_____	YES	_____	x	_____	NO
---------------------------------	-------	-----	-------	---	-------	----

- (A) **EXPERIENCE REQUIREMENTS FOR THE BIDDER (PRIME CONTRACTOR):** The special experience requirements set forth below apply to the bidder. Compliance with such special experience requirements will be evaluated at the time of the bid.
- 1) The bidder must, with the last five (5) consecutive years prior to the bid opening, have successfully completed in a timely fashion at least three (3) projects similar in scope and type to the required work.
- (B) **QUALIFICATION FORM:** For each project submitted to meet the experience requirements set forth above, the bidder must complete and submit with its bid the Qualification Form set forth in this Bid Booklet. All information on the Qualification Form must be provided.
- (C) **CONDITIONS:** The City may, in determining compliance with the special experience requirements set forth above, 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 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.
- (D) **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.
- (E) **COMPLIANCE:** Compliance with the experience requirements set forth herein will be determined solely by the City. The bidder is advised that failure to meet the above described experience will result in the rejection of the bid as non-responsive.

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Qualification Form

Project ID: PV467BSRC

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 work completed: _____

Was the work performed as a prime or a subcontractor: _____

Amount of Contract: _____

Date of Completion: _____

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 work completed: _____

Was the work performed as a prime or a subcontractor: _____

Amount of Contract: _____

Date of Completion: _____

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MWBE 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) 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.

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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 non-responsive.

(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 frame 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 multi-year 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 o**

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 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#:**85014B0155**

Contract # 1 - General Construction Work

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 # 85014B0155 FMS Project ID#: PV467BSRC

Project Title/Agency Renovation of the Bedford Stuyvesant Restoration Youth Arts Academy

PIN # 8502014PV0024C

Bid/Proposal
Response Date: TUESDAY, SEPTEMBER 2, 1014

Contracting Agency Department of Design and Construction

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

Contact Person Norma Negrón Title MWBE Liaison & Compliance Analyst

Telephone # (718) 391-1502 Email negronn@ddc.nyc.gov

Project Description (attach additional pages if necessary)

This Project consists of the partial renovation of the second and third floors of the Youth Arts Academy (YAA) for the NYC Department of Cultural Affairs (DCA). The total area of renovation is approximately 1,000 square feet.

M/WBE Participation Goals for Services

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

Prime Contract Industry: Construction

Group	Percentage	
<u>Unspecified *</u>	<u>40</u>	<u>%</u>
or		
Black American	<u>Unspecified</u>	<u>%</u>
Hispanic American	<u>Unspecified</u>	<u>%</u>
Asian American	<u>Unspecified</u>	<u>%</u>
Women	<u>Unspecified</u>	<u>%</u>
Total Participation Goals	40	%

Line 1

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

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Tax ID #: _____

APT E-

PIN#: 85014B0155**SCHEDULE B - Part II: M/WBE Participation Plan**

All 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 9 and 9a 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**

<input type="checkbox"/> For Prime Contractors (including Qualified Joint Ventures and M/WBE firms) adopting Agency M/WBE Participation Goals.	Total Bid/Proposal Value		Agency Total Participation Goals (Line 1, Page 6)		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

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

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 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? % _____

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.

✓ **Scopes of Subcontract Work**

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

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.

General Construction YES **x** NO

* Note: Even if Yes is marked, the Exemption set forth below may apply.

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

2) Apprenticeship Program Questionnaire

The bidder must submit a completed and signed Apprenticeship Program Questionnaire, unless it qualifies for the exemption set forth below. The Questionnaire is set forth on the

3) Exemption

Bidders for the General Construction Contract are advised that the exemption set forth below applies if an "X" is indicated before the word "Yes".

YES

NO

Exemption: If the bidder intends to subcontract 100% of the construction work, it is not required to demonstrate that it has an Apprenticeship Agreement(s), nor is it required to submit an Apprenticeship Program Questionnaire. If the bidder qualifies for this exemption, it shall submit a letter stating that it intends to subcontract 100% of the construction work. As indicated above, the Apprenticeship Program Requirements apply to subcontracts worth one million dollars or more.

PROJECT ID: PV467BSRC

Name of Bidder: _____

- BID BOOKLET
-
- December 2013

**BID FORM
THE CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF PUBLIC BUILDINGS**

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

PROJECT ID: PV467BSRC

**Renovation of the Bedford Stuyvesant Restoration Youth Arts Academy
247 Herkimer Street
Brooklyn, NY 11216**

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: _____ Bidder's Fax Number: _____

Bidder's Email 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: _____

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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 17 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 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:

Section V: Vendor Certification and Required Affirmations:

I hereby:

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

BID FORM

PROJECT ID: PV467BSRC

TOTAL BID PRICE: In the space provided below, the Bidder shall indicate the total bid price in figures.

- A. **LUMP SUM PRICE** - Total price for all labor and material for all required work, excluding item (B) set forth below. Total Price shall include all costs and expenses, i.e. labor, material overhead and profit for all the Work, described and shown in the drawings and specifications.

Total Price For
Labor

Total Price for Material Sold and
Delivered

\$ _____ +

\$ _____

Total Price for Item A= \$ _____

- B. **ALLOWANCE for Incidental Asbestos Abatement**
(Section 028013 of the Specifications)

\$15,000.00

TOTAL BID PRICE (Add A + B)
(a/k/a BID PROPOSAL)

\$ _____

BIDDER'S SIGNATURE AND AFFIDAVIT

- * **SUBCONTRACTOR IDENTIFICATION:** You **MUST** complete and submit the form entitled "Bidder's Identification of Subcontractors" (page 19) at the time you submit your bid. You must submit this form in a separate, sealed envelope (BID ENVELOPE #2). In the event an award of contract is not made to the Bidder, the Bidder hereby authorizes the Agency to shred the form entitled "Bidder's Identification of Subcontractors". _____ Yes _____ No

Bidder: _____

By: _____
(Signature of Partner or corporate officer)

Attest:
(Corporate Seal)

Secretary of Corporate Bidder

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

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BID FORM (TO BE NOTARIZED)

AFFIDAVIT WHERE BIDDERS 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 BIDDERS 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.
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 BIDDERS 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.

BIDDER'S IDENTIFICATION OF SUBCONTRACTORS

NOTICE TO BIDDERS

SUBMISSION: The Bidder must, at the time of the bid, submit the form on the next page ("BIDDER'S IDENTIFICATION OF SUBCONTRACTORS"). This form must be submitted in a separate, sealed envelope (BID ENVELOPE #2). Failure to do so will result in the disqualification of the bid as non-responsive.

Please be advised that pursuant to GML § 101(5) the Bidder is required to submit with its bid the names of subcontractors it intends to use to perform the following work on this contract, as well as the agreed-upon amount to be paid to each:

- plumbing and gas fitting;
- steam heating, hot water heating, ventilating and air conditioning apparatus; and
- electric wiring and standard illuminating fixtures.

NOTE: This project may not involve all of the above listed subcontractors. Please see the form on the next page which indicates the subcontractors required for this Project.

The list of subcontractors is to be submitted in a separate sealed envelope by completing the form on the next page entitled "Bidder's Identification of Subcontractors". This form provides for the identification of any subcontractors intended to be used in any of the three trades listed above. If bidder intends to use its own forces for any of the above listed work, bidder should so indicate on the form.

Failure to submit the completed form on the next page ("Bidder's Identification of Subcontractors") that includes the names of subcontractors and the agreed upon amounts to be paid to such subcontractors will render the bid non-responsive.

PLEASE NOTE: for any contract that is subject to M/WBE Participation Goals under Section 6-129 of the Administrative Code of the City of New York, if the bidder's intention to use its own forces to do any of the above-referenced work would result in Bidder's failure to attain the Participation Goals identified in the M/WBE Utilization Plan, the bid will be non-responsive unless the bidder requests and obtains a full or partial waiver of the Participation Goals (M/WBE Utilization Plan, Part III) in advance of bid submission. For more information see Notice to All Prospective Contractors, Participation by Minority-Owned and Women-Owned Business Enterprises in City Procurement.

After the low bid is announced, the sealed list submitted by the low bidder will be opened and the names of the subcontractors will be announced. The sealed lists of subcontractors submitted by all other bidders shall be maintained by the Agency unopened unless such bidder shall become the low bidder (e.g., the initial low bidder is found non-responsive). All unopened lists of subcontractors shall be returned to the bidders unopened after contract award, unless the bidder has given the agency permission to shred the form.

After bid submission, any change of subcontractor or agreed-upon amount to be paid to each shall require approval of the Agency upon a showing of a legitimate construction need which shall include, but not be limited to, a change in project specifications, a change in project material costs, a change to subcontractor status as determined pursuant to §222 (2)(e) of the Labor Law, or if the subcontractor has become otherwise unwilling, unable or unavailable to perform the subcontract.

Please note that the Agency will not award this contract for an amount greater than \$3 million.

BIDDER'S IDENTIFICATION OF SUBCONTRACTORS

Project ID: PV467BSRC

SUBMISSION: In addition to its Bid (Bid Envelope # 1), the Bidder must, at the time of the bid, complete and submit this form in a separate, sealed envelope (Bid Envelope # 2). To complete this form, the Bidder must identify the subcontractors it intends to use for the work listed below, as well as the dollar amount to be paid to each subcontractor. Failure to complete this form and submit it in a separate, sealed envelope will result in the disqualification of the bid as non-responsive.

The Bidder intends to use the following subcontractors. If the Bidder intends to do any of the work referenced below with its own forces, the Bidder should complete this form using its own name. If multiple subcontractors for any trade are proposed, Bidder may submit multiple copies of this form.

1. PLUMBING CONTRACTOR:

(Print Name)

Agreed Amount To Be Paid To Subcontractor: \$ _____

2. HVAC CONTRACTOR:

(Print Name)

Agreed Amount To Be Paid To Subcontractor: \$ _____

3. ELECTRICAL CONTRACTOR:

(Print Name)

Agreed Amount To Be Paid To Subcontractor: \$ _____

BIDDER'S SIGNATURE: The Bidder must sign this form in the space provided below:

Name of Bidder: _____

By: _____

Signature of Partner or Corporate Officer

Print Name: _____

Title: _____

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.

BID BOND 2

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

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

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

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

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

(Seal)

Principal

(L.S.)

By: _____

(Seal)

Surety

By: _____

BID BOND 3

ACKNOWLEDGEMENT 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

ACKNOWLEDGEMENT OF PRINCIPAL, IF A PARTNERSHIP

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

Notary Public

ACKNOWLEDGEMENT OF PRINCIPAL, IF AN INDIVIDUAL

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

Notary Public

AFFIX ACKNOWLEDGEMENTS AND JUSTIFICATION OF SURETIES

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BID BREAKDOWN

Submission: Bidders are advised that the requirement to submit a Bid Breakdown applies to each contract for which an "X" is indicated before the word "Yes". If required, the bidder must submit, with its bid, a completed Bid Breakdown. Failure to provide a completed Bid Breakdown may result in rejection of the bid as non-responsive.

X YES NO

Limitations on Use of Bid Breakdown:

Bidders are advised that the Bid Breakdown shall be used for bid analysis purposes only and shall not be binding for any other purposes under the Contract, including, without limitation, for payment purposes or in connection with a contractor claim for extra work. If the form for the Bid Breakdown does not include an item of work required by the Contract Documents, such omission shall have no effect whatsoever, nor shall it be used by the contractor in connection with a claim for extra work (i.e., work for which the contractor is entitled to a change order).

Instructions for Preparing Bid Breakdown:

- (A) The Bid Breakdown is set forth on the following pages of this Bid Booklet and is in accordance with the Construction Specification Institute (CSI) format. For all items of work listed in the Bid Breakdown, the bidder must indicate the price for labor and the price for material, as well as the estimated quantities required.
- (B) In preparing its Bid Breakdown, the bidder shall submit prices that include all costs for overhead and profit. Overhead shall include, without limitation, all costs in connection with the following: administration, management, superintendence, small tools, insurance, bonds, and provision of services or items required by the General Conditions [except for Security/Fire Guard Services and Temporary Heat]. If the Project requires Security/Fire Guard Services and/or Temporary Heat, such service(s) will be included as separate line items in the Bid Breakdown.
- (C) If an item is set forth in the Bid Breakdown, but is not included in the Contract Documents (Drawings, Specifications, General Conditions, and/or Addenda), the bidder is advised to leave the item blank and exclude the cost of the item from its grand total. In an attachment to its Bid Breakdown, the bidder shall provide a list of all items left blank.
- (D) If an item is not set forth in the Bid Breakdown, but is included in the Contract Documents (Drawings, Specifications, General Conditions, and/or Addenda), the bidder is advised to add the item to its Bid Breakdown and include the cost of the item in its grand total. In an attachment to its Bid Breakdown, the bidder shall provide a list of all items added.

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NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

CONTRACTOR'S BID BREAKDOWN FORM

CONTRACT 1 - GENERAL CONSTRUCTION WORK

Project: Youth Arts Academy Renovation
Location: 247 Herkimer Street, Brooklyn, NY 11216

DDC ID: PV467BSRC
Sponsor Agency: Department of Cultural Affairs

Bidder:

CSI Number	Description	Quantity	Unit	Unit Cost of Material	Total Cost of Material	Unit Cost of Labor	Total Cost of Labor	Total Cost: Materials and Labor
CONTRACT 1 - GENERAL CONSTRUCTION WORK								
01 0000	GENERAL REQUIREMENTS							
01 0000	GENERAL REQUIREMENTS		LS					
	Mobilization		LS					
	Temporary Water Facilities							
	Subtotal							
02 0000	EXISTING CONDITIONS							
02 4119	SELECTIVE STRUCTURE DEMOLITION		SF					
	Remove Existing Wall Finish / Furring		SF					
	Remove Existing Partition		SF					
	Remove Floor Finish / Sub Flooring		SF					
	Remove Suspended Acoustical Ceiling Tile System		EA					
	Remove Doors/ Frames		EA					
	Remove Shower Door		LF					
	Remove Counter		EA					
	Remove Toilet Partitions		LS					
	Remove Toilet Accessories		EA					
	Remove Mirrors		LS					
	Miscellaneous Removals		LS					
	Temporary Protection		LS					
	Rubbish Disposal							
	Subtotal							
02 8213	ASBESTOS ABATEMENT		LS					
	Asbestos Abatement							
	Subtotal							

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CONTRACTOR'S BID BREAKDOWN FORM

CONTRACT 1 - GENERAL CONSTRUCTION WORK

Project: Youth Arts Academy Renovation
Location: 247 Herkimer Street, Brooklyn, NY 11216
Bidder: _____

DDC ID: PV467BSRC

Sponsor Agency: Department of Cultural Affairs

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NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

Project: Youth Arts Academy Renovation
Location: 247 Herkimer Street, Brooklyn, NY 11216
Bidder: _____

CONTRACTOR'S BID BREAKDOWN FORM

CONTRACT 1 - GENERAL CONSTRUCTION WORK

DDC ID: PV467BSRC
Sponsor Agency: Department of Cultural Affairs

CSI Number	Description	Quantity	Unit	Unit Cost of Material	Total Cost of Material	Unit Cost of Labor	Total Cost of Labor	Total Cost: Materials and Labor
09 0000	FINISHES							
09 2216	NON-STRUCTURAL METAL FRAMING							
	Type A - (1) Layer 5/8" High Abuse GWB One Side Vapor Barrier,		SF					
	Acoustical Insulation- to exist. wall		SF					
	Type B - Add (1) Layer 1/2" Cementitious Backer Board		SF					
	Type D - (1) Layer 5/8" High Abuse GWB each side Mt. studs,		SF					
	Insulation		LS					
	New studs as required for new GWB on exist. wall		LS					
	Subtotal							
09 2900	GYPSUM BOARD							
	Misc. Work on First Floor after MEP Work		LS					
	Paint Wall		SF					
	Paint GWB Reveal		LF					
	Paint Doors		EA					
	Plywood Subfloor		SF					
	Subtotal							
09 3000	TILING							
	1/2" Cementitious Backer Board		SF					
	1"x1" Mosaic Tile Floors		SF					
	1"x1" Ceramic Tile Wainscot		SF					
	Mosaic Tile Base		LF					
	Subtotal							
09 5113	ACOUSTICAL PANEL CEILINGS							
	Acoustic Tile Ceiling		SF					
	6" Lighting Reveal - 1/2" GWB on Mt. Studs		LF					
	3" Reveal Channel Trim - 6" Ht		LF					
	Miscellaneous Cutting/ Patching/ Painting		LS					
	Subtotal							

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NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

CONTRACTOR'S BID BREAKDOWN FORM

CONTRACT 1 - GENERAL CONSTRUCTION WORK

Project: Youth Arts Academy Renovation
Location: 247 Herkimer Street, Brooklyn, NY 11216
Bidder: _____

DDC ID: PV467BSRC

Sponsor Agency: Department of Cultural Affairs

CSI Number	Description	Quantity	Unit	Unit Cost of Material	Total Cost of Material	Unit Cost of Labor	Total Cost of Labor	Total Cost: Materials and Labor
09 6519	RESILIENT TILE FLOORING							
	VCT		SF					
	Rubber Base		LF					
	Subtotal							
10 0000	SPECIALTIES							
10 1400	INTERIOR SIGNAGE							
	Signage		LOC					
	Subtotal							
10 2113.17	PHENOLIC CORE TOILET COMPARTMENTS							
	Toilet Partitions: Handicapped Phenolic		EA					
	Toilet Partitions: Standard Phenolic		EA					
	Privacy Screen		EA					
	Subtotal							
10 2813.13	COMMERCIAL TOILET ACCESSORIES							
	Grab Bar		SET					
	Mirror on Wood Frame		SF					
	Toilet Paper Dispensers		EA					
	Sanitary Napkin Disposal Unit		EA					
	Paper Tower Dispenser and Waste Receptacle		EA					
	Toilet Seat Cover Dispenser		EA					
	Deck Mounted Soap Dispensers		EA					
	Electric Hand Dryer		EA					
	Subtotal							
12 0000	FURNISHINGS							
12 3623.13	PLASTIC-LAMINATE-CLAD COUNTERTOPS (included w/ 061000)							

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NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

Project: Youth Arts Academy Renovation

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Bidder:

CONTRACTOR'S BID BREAKDOWN FORM

CONTRACT 1 - GENERAL CONSTRUCTION WORK

DDC ID: PV467BSRC

Sponsor Agency: Department of Cultural Affairs

CSI Number	Description	Quantity	Unit	Unit Cost of Material	Total Cost of Material	Unit Cost of Labor	Total Cost of Labor	Total Cost: Materials and Labor
<u>22 0000</u>	PLUMBING							
<u>22 0500</u>	COMMON WORK RESULTS FOR PLUMBING (included w/ 220502)							
	Plumbing Demolition:							
	Remove existing fixtures		EA					
	Remove existing shower w/ assoc. piping		LS					
	Pipe cut and temporary cap		LS					
	Miscellaneous plumbing demolition (incl. carting and disposal)		LS					
	Disinfect, clean and flush		LS					
	System ID/ Valve Tags		LS					
	Material Distribution		LS					
	Miscellaneous job expenses		LS					
	Subtotal							
<u>22 0523</u>	GENERAL-DUTY VALVES FOR PLUMBING PIPING (included w/ 220500)							
<u>22 0529</u>	HANGERS AND SUPPORTS FOR PLUMBING, PIPING AND EQUIPMENT							
	Miscellaneous pipe supports		LS					
	Subtotal							
<u>22 0533</u>	HEAT TRACING FOR PLUMBING PIPING							
	Heat tracing		LF					
	Subtotal							
<u>22 0700</u>	PLUMBING INSULATION							
	Insulation		LF					
	Subtotal							

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NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

CONTRACTOR'S BID BREAKDOWN FORM

CONTRACT 1 - GENERAL CONSTRUCTION WORK

Project: Youth Arts Academy Renovation

Location: 247 Herkimer Street, Brooklyn, NY 11216

Bidder:

DDC ID: PV467BSRC

Sponsor Agency: Department of Cultural Affairs

CSI Number	Description	Quantity	Unit	Unit Cost of Material	Total Cost of Material	Unit Cost of Labor	Total Cost of Labor	Total Cost: Materials and Labor
22 1116	PLUMBING PIPING							
	Domestic Water Pipe:							
	1/2 " - 3/4" Dia.		LF					
	Tie-in		EA					
	Subtotal							
22 1119	PLUMBING SYSTEM ACCESSORIES							
	Sanitary Waste and Vent:							
	4" Dia.		LF					
	2" Dia.		LF					
	Tie-in (first floor connection included in GC)		EA					
	Subtotal							
22 4000	PLUMBING FIXTURES							
	Water Closet		EA					
	Water Closet (ABBAS)		EA					
	Urinal		EA					
	Lavatory		EA					
	Fixture rough-in		EA					
	Subtotal							
23 0000	HEATING, VENTILATING, AND AIR CONDITIONING							
23 0500	COMMON WORK RESULTS FOR HVAC							
	HVAC Demolition:							
	Remove existing roof exhaust fan		EA					
	Remove existing exhaust grille		EA					
	Remove existing unit heater		EA					
	Remove existing T-stat and wiring		EA					
	Disconnect and cap ex. ductwork as indicated (temporary)		EA					
	Miscellaneous HVAC demolition (incl. carting and disposal)		LS					

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NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

Project: Youth Arts Academy Renovation
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Bidder: _____

CONTRACTOR'S BID BREAKDOWN FORM

CONTRACT 1 - GENERAL CONSTRUCTION WORK

DDC ID: PV467BSRC
Sponsor Agency: Department of Cultural Affairs

CSI Number	Description	Quantity	Unit	Unit Cost of Material	Total Cost of Material	Unit Cost of Labor	Total Cost of Labor	Total Cost: Materials and Labor
	Roof curb		EA					
	Miscellaneous duct and equipment supports		LS					
	Cutting, patching and firestopping		LS					
	Material Distribution		LS					
	Miscellaneous job expenses		LS					
	Subtotal							
23 0513	COMMON MOTOR REQUIREMENTS FOR HVAC EQUIPMENT							
	Fan:							
	EF-1 - 1200 CFM, 1/2 HP		EA					
	Hook-up fan		EA					
	Electric Baseboard w/ Built-in Thermostat: EBH-1		EA					
	Galvanized steel duct		LBS					
	Exhaust Grille		EA					
	Cable operated volume damper		EA					
	Small motorized damper		SF					
	Access door		EA					
	Flexible duct (5' long)		EA					
	Tie-in duct		EA					
	Miscellaneous sheetmetal requirements		LS					
	Subtotal							
23 0548	VIBRATION CONTROLS FOR HVAC PIPING AND EQUIPMENT (included w/ 230513)							
23 0553	IDENTIFICATION FOR HVAC PIPING AND EQUIPMENT (included w/ 230513)							
23 0593	TESTING FOR HVAC (included w/ 230593.1)							

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NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

Project: Youth Arts Academy Renovation
Location: 247 Herkimer Street, Brooklyn, NY 11216
Bidder: _____

CONTRACTOR'S BID BREAKDOWN FORM

CONTRACT 1 - GENERAL CONSTRUCTION WORK

DDC ID: PV467BSRC
Sponsor Agency: Department of Cultural Affairs

CSI Number	Description	Quantity	Unit	Unit Cost of Material	Total Cost of Material	Unit Cost of Labor	Total Cost of Labor	Total Cost: Materials and Labor
23 0593.1	BALANCING FOR HVAC		LS					
	Testing and balancing							
	Subtotal							
23 0701	DUCTWORK INSULATION (included w/ 230513)							
23 0900	INSTRUMENTATION AND CONTROL FOR HVAC							
	Fan		EA					
	motorized damper		EA					
	Subtotal							
23 0993	SEQUENCE OF OPERATIONS FOR HVAC CONTROLS (included w/ 230900)							
23 3113	METAL DUCTS (included w/ 230513)							
23 3300	AIR DUCT ACCESSORIES (included w/ 230500)							
23 3301	DAMPERS (included w/ 230513)							
23 3416	CENTRIFUGAL HVAC FANS (included w/ 230513)							
23 3713	DIFFUSERS, REGISTERS AND GRILLES (included w/ 230513)							
26 0000	ELECTRICAL							
26 0500	COMMON WORK RESULTS FOR ELECTRICAL							
	Temporary Lighting and Power		LS					
	Electric Demolition		LS					
	Miscellaneous job expenses		LS					

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NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

Project: Youth Arts Academy Renovation
Location: 247 Herkimer Street, Brooklyn, NY 11216
Bidder: _____

CONTRACTOR'S BID BREAKDOWN FORM

CONTRACT 1 - GENERAL CONSTRUCTION WORK

DDC ID: PV467BSRC
Sponsor Agency: Department of Cultural Affairs

CSI Number	Description	Quantity	Unit	Unit Cost of Material	Total Cost of Material	Unit Cost of Labor	Total Cost of Labor	Total Cost: Materials and Labor
	Electrical baseboard heaters		EA					
	3/4" conduit		LF					
	10 AWG		LF					
	Subtotal							
26 0519	LOW VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES							
	Feeders:							
	1 1/4" conduit		LF					
	6 AWG		LF					
	10 AWG		LF					
	Subtotal							
26 0526	GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS (included w/ 260500)							
26 0529	HANGERS AND SUPPORTS FOR ELECTRICAL SYSTEMS (included w/ 260500)							
26 0533	RACEWAY AND BOXES FOR ELECTRICAL SYSTEMS (included w/ 262726)							
26 0534	BOXES (included w/ 260500)							
26 0553	IDENTIFICATION FOR ELECTRICAL SYSTEMS (included w/ 260500)							
26 2413	PANELBOARDS							
	Switchgear and Distribution:							
	Panelboard (60A MB)		EA					
	NEMA 1 60A disconnect		EA					

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NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

Project: Youth Arts Academy Renovation
Location: 247 Herkimer Street, Brooklyn, NY 11216
Bidder: _____

CONTRACTOR'S BID BREAKDOWN FORM

CONTRACT 1 - GENERAL CONSTRUCTION WORK

DDC ID: PV467BSRC

Sponsor Agency: Department of Cultural Affairs

CSI Number	Description	Quantity	Unit	Unit Cost of Material	Total Cost of Material	Unit Cost of Labor	Total Cost of Labor	Total Cost: Materials and Labor
	100 AMP Tap		EA					
	Subtotal							
26 2726	WIRING DEVICES							
	Single pole key switches		EA					
	Occupancy sensors		EA					
	Duplex REC		EA					
	GFCI REC		EA					
	Hand dryers		EA					
	3/4" conduit		LF					
	12 AWG		LF					
	Subtotal							
26 5100	INTERIOR LIGHTING							
	2x2 Acrylic lens fixture		EA					
	2x2 Acrylic lens fixture w/EM ballast		EA					
	LED lighting		LF					
	3/4" conduit		LF					
	12 AWG		LF					
	Subtotal							
TOTAL CONTRACT 1 - GENERAL CONSTRUCTION WORK								

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ATTACHEMENT 1 – BID INFORMATION

PROJECT ID: PV467BSRC

DESCRIPTION AND LOCATION OF WORK:

Renovation of the Bedford Stuyvesant Restoration Youth Arts Academy
 247 Herkimer Street
 Brooklyn, NY 11216
 E-PIN: 85014B01556 / DDC PIN: 8502014PV0024C

DOCUMENTS AVAILABLE AT:

Department of Design and Construction, Contract Section
 30-30 Thomson Avenue – First Floor, Long Island City, NY 11101

SUBMISSION OF BIDS BEFORE BID OPENING:

TIME TO SUBMIT:

On or Before: **TUESDAY, SEPTEMBER 16, 2014**
BIDS MUST BE CLOCKED IN PRIOR TO BID OPENING

PLACE TO SUBMIT:

Department of Design and Construction, Contract Section (located behind Security Desk)
 30-30 Thomson Avenue – First Floor, Long Island City, NY 11101

BID OPENING:

PLACE OF BID OPENING:	Department of Design and Construction Contract Section 30-30 Thomson Avenue – First Floor Long Island City, NY 11101
DATE AND HOUR:	TUESDAY, SEPTEMBER 16, 2014 @ 2:00 pm
	LATE BIDS WILL NOT BE ACCEPTED

PRE-BID CONFERENCE:

PLACE	Bedford Stuyvesant Restoration Youth Arts Academy 247 Herkimer Street Brooklyn, NY 11216
DATE AND HOUR	TUESDAY, SEPTEMBER 2, 2014 AT 10:00AM
MANDATORY OR OPTIONAL	OPTIONAL

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 excess of \$1,000,000.00. Performance and Payment Security shall each be in an amount equal to 100% of the Contract Price

AGENCY CONTACT PERSON:

Lorraine Holley, 30-30 Thomson Avenue – First Floor, Long Island City, Queens, NY 11101
 Telephone (718) 391-2200 or (718) 391-1016 Fax: (718) 391-2615

**BID BOOKLET
PART B**

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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 _____ YES _____ NO

2. Type(s) of Construction Work

TYPE OF WORK	LAST 3 YEARS	THIS PROJECT
General Building Construction	_____	_____
Residential Building Construction	_____	_____
Nonresidential Building Construction	_____	_____
Heavy Construction, except building	_____	_____
Highway and Street Construction	_____	_____
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	<u>INTRASTATE</u> RATE	<u>INTERSTATE</u> 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:

- ☐ YES ☐ NO Contractor has received a willful violation issued by OSHA or New York City Department of Buildings (NYCDOB) within the last three years.
- ☐ YES ☐ NO Contractor has had an incident requiring OSHA notification within 8 hours (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.

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

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)

___ YES ___ NO Contractor previously audited by the DDC Office of Site Safety.

DDC Project Number(s): _____, _____, _____

___ YES ___ NO Accident on previous DDC Project(s).

DDC Project Number(s): _____, _____, _____

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

DDC Project Number(s): _____, _____, _____

Date: _____

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

Title: _____

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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, the bidder must submit such information 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 which must be submitted.

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 28 through 30 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

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**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.

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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: _____

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DIRECTIONS: Please execute two originals (both with original signature).
Please forward directly to the agency (not M.O.C.S.).



Certificate of No Change Form

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

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

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

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

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

Vendor Questionnaire *This section is required.*

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

Name of Submitting Entity: _____

Vendor's Address: _____

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

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

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

Signature date on change submission for the submitting vendor: _____

Principal Questionnaire

This section refers to the most recent principal questionnaire submissions.



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

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

Certification *This section is required.*

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

Certified By:

Name (Print)

Title

Name of Submitting Entity

Signature

Date

Notarized By:

Notary Public

County License Issued

License Number

Sworn to before me on: _____
Date

DIRECTIONS: Please execute two originals (both with original signature).
Please forward directly to the agency (not M.O.C.S.).



Certificate of No Change Form

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

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

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

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

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

Vendor Questionnaire *This section is required.*

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

Name of Submitting Entity: _____

Vendor's Address: _____

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

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

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

Signature date on change submission for the submitting vendor: _____

Principal Questionnaire

This section refers to the most recent principal questionnaire submissions.



Principal Name

Date of signature
on last full Principal
Questionnaire

Date(s) of signature on
submission of change

1

2

3

4

5

6

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

Certification *This section is required.*

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

Certified By:

Name (Print)

Title

Name of Submitting Entity

Signature

Date

Notarized By:

Notary Public

County License Issued

License Number

Sworn to before me on: _____
Date

**IRAN DIVESTMENT ACT COMPLIANCE RIDER
FOR NEW YORK CITY CONTRACTORS**

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

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

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

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

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

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

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

[Please Check One]

BIDDER'S CERTIFICATION

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

Dated: _____, New York
_____, 20__

SIGNATURE

PRINTED NAME

TITLE

Sworn to before me this
____ day of _____, 20__

Notary Public

Dated:

CITY OF NEW YORK

DIVISION OF LABOR SERVICES

CONSTRUCTION EMPLOYMENT REPORT

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

CONSTRUCTION EMPLOYMENT REPORT

GENERAL INFORMATION

1. Your contractual relationship in this contract is: Prime contractor____ Subcontractor____
- 1a. Are 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
____ Disadvantaged Business Enterprise	
- 2a. If you are certified as an **MBE, WBE, LBE, EBE** or **DBE**, what city/state agency are you certified with? _____ Are you DBE certified? Yes ____ No ____
3. Please indicate if you would like assistance from SBS in identifying certified M/WBEs for contracting opportunities: Yes ____ No ____
4. Is this project subject to a project labor agreement? Yes ____ No ____
5. Are you a Union contractor? Yes ____ No ____ If yes, please list which local(s) you affiliated with _____
6. Are you a Veteran owned company? Yes ____ No ____

PART I: CONTRACTOR/SUBCONTRACTOR INFORMATION

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

13. Number of employees in your company: _____

14. Contract information:

(a) _____
Contracting Agency (City Agency)

(b) _____
Contract Amount

(c) _____
Procurement Identification Number (PIN)

(d) _____
Contract Registration Number (CT#)

(e) _____
Projected Commencement Date

(f) _____
Projected Completion Date

(g) Description and location of proposed contract:

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

If yes, attach a copy of certificate.

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

If yes, attach a copy of certificate.

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

17. Has an Employment Report already been submitted for a different contract (not covered by this Employment Report) for which you have not yet received compliance certificate?

Yes___ No___ If yes,

Date submitted: _____

Agency to which submitted: _____

Name of Agency Person: _____

Contract No: _____

Telephone: _____

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

If yes,

(a) Name and address of OFCCP office.

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

If yes, attach a copy of such certificate.

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

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

(d) Were any deficiencies found? Yes___ No___

If yes, attach a copy of such findings.

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

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

PART II: DOCUMENTS REQUIRED

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

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

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

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

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

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

If yes, is the medical examination given:

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

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

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

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

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

___ Minorities and Women

___ Individuals with handicaps

___ Other. Please specify _____

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

If yes, please attach a copy of this policy.

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

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

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

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

If yes, attach a log. See instructions.

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

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

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

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

SIGNATURE PAGE

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

Contractor's Name

Name of person who prepared this Employment Report

Title

Name of official authorized to sign on behalf of the contractor

Title

Telephone Number

Signature of authorized official

Date

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

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

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

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

Only original signatures accepted.

Sworn to before me this _____ day of _____ 20 _____

Notary Public

Authorized Signature

Date

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

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

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

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

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

OWNERSHIP CODES

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

FORM B: PROJECTED WORKFORCE

TRADE CLASSIFICATION CODES

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

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

Trade:

Union Affiliation, if applicable

Total (Col. #1-10):

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

Total Female
(Col. #6 ~ 10):

MALES

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

FEMALES

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

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

FORM B: PROJECTED WORKFORCE

Trade: _____

Union Affiliation, if applicable

Total (Col. #1-10): _____

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

Total Female
(Col. #6 – 10): _____

MALES

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

FEMALES

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

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

FORM C: CURRENT WORKFORCE

TRADE CLASSIFICATION CODES

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

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

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

FEMALES

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

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:

Union Affiliation, if applicable

Total (Col. #1-10):

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

Total Female
(Col. #6 – 10):

MALES

(1) White Non Hisp.	(2) Black Non Hisp.	(3) Hisp.	(4) Asian	(5) Native Amer.

J

H

A

TRN

TOT

FEMALES

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

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

FMS ID: PV467BSRC



**THE CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF PUBLIC BUILDINGS**

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

Contract for Furnishing all Labor and Material Necessary and Required for:

CONTRACT NO. 1 GENERAL CONSTRUCTION

**Renovation of the Bedford Stuyvesant
Restoration Youth Arts Academy**

**LOCATION: 247 Herkimer Street
BOROUGH: Brooklyn, NY 11216
CITY OF NEW YORK**

Contractor _____

Dated _____, 20____

Entered in the Comptroller's Office

First Assistant Bookkeeper _____

Dated _____, 20____





PROJECT ID: PV467BSRC

**THE CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF PUBLIC BUILDINGS**

30-30 THOMSON AVENUE
LONG ISLAND CITY, NEW YORK 11101-3045
TELEPHONE (718) 391-1000
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VOLUME 2 OF 3

**INFORMATION FOR BIDDERS
CONTRACT
PERFORMANCE AND PAYMENT BONDS
SCHEDULE OF PREVAILING WAGES
GENERAL CONDITIONS**

FOR FURNISHING ALL LABOR AND MATERIALS
NECESSARY AND REQUIRED FOR THE PROJECT

**Renovation of the Bedford Stuyvesant
Restoration Youth Arts Academy**

LOCATION: 247 Herkimer Street
BOROUGH: Brooklyn, NY 11216
CITY OF NEW YORK

CONTRACT NO. 1 GENERAL CONSTRUCTION

Department of Cultural Affairs

Huff and Gooden Architects, LLC

Date: April 25, 2014

14-116







NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

**THE CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF PUBLIC BUILDINGS**

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VOLUME 2 OF 3

**INFORMATION FOR BIDDERS
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NECESSARY AND REQUIRED FOR THE PROJECT



NOTICE TO BIDDERS

Please be advised that the City of New York has issued a new Standard Construction Contract. The new Contract, which is incorporated in this bid, is significantly different from the 2008 version previously used by the City. A listing of some of the significant changes is provided below. This notice is only a partial listing. Please refer to the Contract itself for a full understanding of the changes and the actual text of the changes that were made. The text of the revised Standard Construction Contract is the controlling document should there be any discrepancies between this notice and the Standard Construction Contract.

Significant changes include the following:

ARTICLE 11 DAMAGES CAUSED BY DELAYS

In 2008, the City embarked on a pilot project to test the use of new construction contract language altering the allocation of the risk of project delays, as between the City and the contractor. The City has determined to make the pilot project language the standard language for all City construction contracts. Accordingly, there is now one Standard City Construction Contract that it to be used by all agencies for all bids released after the release of the new contract. The damages for delay language is Article 11. Please note that changes have been made to the damages for delay provisions from the pilot to the adopted version.

ARTICLE 22 INSURANCE

Changes have been made to the insurance provisions, including incorporating requirements that the insurance provided comply with recent NYC Department of Buildings regulations specifying required dollar limits for CGL insurance for certain projects and requiring proof of builder's risk insurance prior to Work commencing rather than within 10 days of award.

ARTICLE 26 EXTRA WORK

The percentage paid for overhead for Extra Work pursuant to Section 26.1.11 is increased from 10% to 12% and the calculation of Worker's Compensation insurance costs reimbursed for Extra Work has been clarified.

ARTICLE 37 LABOR LAW REQUIREMENTS
ARTICLE 38 PAYROLL REPORTS

The provisions governing Labor Law provisions have been tightened, including requirements the employee identification cards include a photo (unless the requirement is waived), a prohibition on cash payments to employees and subcontractors, and clear enforcement authority requirements.

ARTICLE 70 ELECTRONIC FILING

A provision is added to make mandatory the electronic filing of certain alteration permits with the Department of Buildings.

Other significant changes include the following:

ARTICLE 7 INDEMNIFICATION

Changes have been made to the indemnification provisions.

ARTICLE 14 FINAL ACCEPTANCE OF WORK
ARTICLE 44 SUBSTANTIAL COMPLETION PAYMENT

The Commissioner is no longer required to issue a substantial completion determination in addition to the already existing requirement that the Engineer issue a substantial completion determination and reach an agreement on a punch list of remaining work. Now, the Engineer, when issuing the punch list to the Contractor, must also include a proposed schedule for the completion of the punch list. The Contractor may propose an alternative schedule that is subject to the approval of the Engineer. If the Contractor fails to respond to the Engineer's proposed schedule, the Engineer's schedule is deemed accepted.

ARTICLE 15 LIQUIDATED DAMAGES

The contract is revised to match Schedule A to provide that liquidated damages are available only until substantial completion.

ARTICLE 17 SUBCONTRACTS

The requirements for prior approval of subcontractors, and for contractors to be responsible for the actions of their subcontractors, have been tightened. The requirement that the Contractor list subcontractors in the City's Payee Information Portal has been added; the provision was previously attached as a rider.

ARTICLE 19 SECURITY DEPOSIT

The provisions governing the return of bid deposits are clarified.

ARTICLE 20 PAYMENT GUARANTEE

The Payment Guaranty provisions, which apply when the City does not require the Contractor to obtain payment bonds, has been significantly revised to track the requirements of State Finance law 137.

ARTICLE 28 RECORDKEEPING FOR EXTRA OR DISPUTED WORK

The recordkeeping requirement that currently apply to payments for Time & Materials for extra work are expressly made applicable to regular work that is paid for on a T & M basis.

ARTICLE 35 EMPLOYEES

The whistleblower provisions of local law are added to the construction contract. They previously have been attached as a rider.

ARTICLE 38 PAYROLL REPORTS ARTICLE 77 RECORDS RETENTION

Requirements that records be maintained for six years and directions on how such records must be made available.

ARTICLE 42 PARTIAL PAYMENTS

Increased flexibility has been provided for when contractors may submit invoices.

ARTICLE 62 TAX EXEMPTION

The provisions identifying the State tax exemption for municipalities are revised to more clearly describe State law.

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RIDER

Pursuant to 44 CFR §13.36(i), the following provisions are inserted into the Contract:

1. The City shall have the right to terminate this Contract, in whole or in part, for cause or without cause. The City shall give no less than 30 days written notice of termination ("Termination Notice") for termination without cause and no less than 10 days notice for termination for cause unless a shorter time is determined by the Commissioner to be necessary. If the City terminates this Contract the City shall not incur or pay any further obligation pursuant to this Contract beyond the termination date set by the City in the Termination Notice. The City shall pay for services rendered or goods delivered in accordance with this Contract prior to the termination date. In addition, any obligation necessarily incurred by the Contractor on account of this Contract prior to receipt of notice of termination and falling due after the termination date shall be paid by the City in accordance with the terms of this Contract. In no event shall such obligation be construed as including any lease or other occupancy agreement, oral or written, entered into between the Contractor and its landlord.

2. In the event of a Default of Contractor's obligations under this Contract, the Commissioner, after declaring the Contractor in default, may have the services under the Contract completed by such means and in such manner, by contract with or without public letting, or otherwise, as he or she may deem advisable in accordance with applicable PPB Rules. After such completion, the Commissioner shall certify the expense incurred in such completion, which shall include the cost of re-letting. 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 promptly paid by the Contractor upon demand by the City. The excess 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, may be charged against and deducted out of monies earned by the Contractor.

3. If applicable, Contractor shall comply, and shall cause its subcontractors to comply with Executive Order 11246 of September 24, 1964, entitled "Equal Employment Opportunity" as amended by Executive Order 11375 of October 13, 1967 and supplemented in Department of Labor regulations (41 CFR Chapter 60).(applicable to all construction contracts awarded in excess of \$10,000)

4. If applicable, Contractor shall comply, and shall cause its subcontractors to comply with the Copeland "Anti-Kickback" Act (18 U.S.C 874) as supplemented in Department of Labor regulations (29 CFR Part 3).(applicable to contracts for construction or repair)

5. If applicable, Contractor shall comply, and cause its subcontractors to comply with the Davis-Bacon Act (40 U.S.C. 276a to 276a-7) as supplemented by Department of Labor regulations (29 CFR Part 5).(applicable to construction contracts in excess of \$2,000)

6. If applicable, Contractor shall comply and cause its subcontractors to comply with Sections 103 and 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 327-330) as supplemented by Department of Labor regulations (29 CFR Part 5). (applicable to construction contracts in excess of \$2,000, and in excess of \$2,500 for other contract which involve the employment of mechanics or laborers)

7. Contractor shall be required to produce and deliver such reports relating to the services performed under this Contract as may be required by the City or any other State or federal governmental agency with jurisdiction.

8. Pursuant to 44 CFR §13.34, if the services under this Contract are supported by a federal grant of funds FEMA reserves a royalty-free, non-exclusive, and irrevocable right to reproduce, publish, or otherwise use, and to authorize others to use, for Federal Government purposes: (1) the copyright in any work developed under a grant, subgrant, or contract under a grant or subgrant; and (2) any rights of copyright to which a grantee, subgrantee, or contractor purchases ownership with grant support.

9. Any reports, documents, data, photographs, deliverables, and/or other materials produced pursuant to this Contract ("Copyrightable Materials"), and any and all drafts and/or other preliminary materials in any format related to such items produced pursuant to this Contract, shall upon their creation become the exclusive property of the City. The Copyrightable Materials shall be considered "work-made-for-hire" within the meaning and purview of Section 101 of the United States Copyright Act, 17 U.S.C. § 101, and the City shall be the copyright owner thereof and of all aspects, elements and components thereof in which copyright protection might exist. To the extent that the Copyrightable Materials do not qualify as "work-made-for-hire," the Contractor hereby irrevocably transfers, assigns and conveys exclusive copyright ownership in and to the Copyrightable Materials to the City, free and clear of any liens, claims, or other encumbrances. The Contractor shall retain no copyright or intellectual property interest in the Copyrightable Materials.

10. The Contractor shall promptly and fully report to the Department any discovery or invention arising out of or developed in the course of performance of this Contract. If the services under this Contract are supported by a federal grant of funds, the Contractor shall promptly and fully report to the federal government for the federal government to make a determination as to whether patent protection on such invention shall be sought and how the rights in the invention or discovery, including rights under any patent issued thereon, shall be disposed of and administered in order to protect the public interest.

11. The Contractor shall grant access to the State, the City, FEMA, and/or the Comptroller General of the United States, or any of their duly authorized representatives, to any books, documents, papers, and/or records of the Contractor that are directly pertinent to the Contract for the purpose of making audit, examination, excerpts, and transcriptions. Contractor shall retain all books, documents, papers or records relating to the services performed under this

Contract for three years after final payment under this Contract is made and all other pending matters are closed.

12. For any contract or subcontract the value of which is in excess of \$100,000: The Contractor shall comply and shall cause its subcontractor to comply with all applicable standards, orders, or requirements issued under Section 306 of the Clean Air Act (42 U.S.C. §1857(h)), Section 508 of the Clean Water Act (33 U.S.C. §1368), Executive Order 11738, and Environmental Protection Agency regulations (40 CFR Part 15).

13. The Contractor shall comply with mandatory standards and policies relating to energy efficiency that are contained in the State's energy conservation plan issued in compliance with the Energy Policy and Conservation Act (Pub. L. 94-163, 89 Stat. 871).



CITY OF NEW YORK
DEPARTMENT OF
DESIGN AND CONSTRUCTION
DIVISION OF PUBLIC BUILDINGS

INFORMATION FOR BIDDERS

December 2013

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INFORMATION FOR BIDDERS

1. Description and Location of Work

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

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 reasonably have been 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 Officer or the contact 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. 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. The performance and payment security shall be delivered by the contractor prior to or at the time of execution of the Contract. If a contractor fails to deliver the required performance and payment security, its bid security shall be enforced, and an award of Contract may be made to the next lowest responsible and responsive bidder, or the contract may be rebid.

(C) Acceptable Types of Security: Acceptable types of security for bids, performance, and payment shall be limited to the following:

- (1) a one-time bond in a form satisfactory to the City;
- (2) a bank certified check or money order;
- (3) obligations of the City of New York; or
- (4) other financial instruments as determined by the Office of Construction in consultation with the Comptroller.

Whenever the successful bidder deposits obligations of the City of New York as performance and payment security, the Comptroller may sell and use the proceeds thereof for any purpose for which the principal or surety on such bond would be liable under the terms of the Contract. If the money is deposited with the Comptroller, the successful bidder shall not be entitled to receive interest on such money from the City.

(D) Form of Bonds: Security provided in the form of bonds must be prepared on the form of bonds authorized by the City of New York. Forms for bid, performance, and payment bonds are included in the Invitation for Bids Documents. Such bonds must have as surety thereunder such surety company or companies as are: (1) approved by the City of New York; (2) authorized to do business in the State of New York, and (3) approved by the Department of the Treasury of the United States. Premiums for any required bonds must be included in the base bid.

The bidder is advised that submission of a bid bond where the surety on such bond fails to meet the criteria set forth herein, shall result in the rejection of the bid as non-responsive.

The Department of the Treasury of the United States advises that information concerning approved surety companies may be obtained as follows: (1) from the Government Printing Office at 202-512-1800; (2) through the Internet at <http://www.fns.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 Form, multiplied by the corresponding unit prices, and including any lump sum bids on individual items.

(B) Variations from Engineer's Estimate: Bidders are warned that the Engineer's Estimate of Quantities on the various items of work and materials is approximate only, given solely to be used as a uniform basis for the comparison of bids, and is not be considered part of this contract. The quantities actually required to complete the contract work may be less or more than so estimated, and if so, no action for damages or for loss of profits shall accrue to the contractor by reason thereof.

(C) Overruns: The terms and conditions applicable to overruns of unit price items are set forth in Article 26 of the Contract.

34. Excise Tax

Bidders are referred to the Specifications for information on Federal Excise Tax exemptions.

35. Licenses and Permits

The successful bidder will be required to obtain all necessary licenses and permits necessary to perform the work.

36. Multiple Prime Contractors

If more than one prime contractor will be involved on this project, all contractors are required to examine the Invitation for Bid packages for all other parts of the project.

37. Locally Based Enterprise Requirements (LBE)

This Contract is subject to the requirements of Administrative Code, Section 6-108.1, and the regulations promulgated thereunder. No construction contract will be awarded unless and until these requirements have been complied with in their entirety. The bidder is advised of the provisions set forth below, as well as the provisions with respect to the Locally Based Enterprise Program contained in Article 67 of the Contract. The contractor is advised that:

(A) If any portion of the Contract is subcontracted, not less than ten percent of the total dollar amount of the contract shall be awarded to locally based enterprises ("LBEs"); except, where less than ten percent of the total dollar amount of the Contract is subcontracted, such lesser percentage shall be so awarded.

(B) No contractor shall require performance and payment bonds from LBE subcontractors.

(C) No Contract shall be awarded unless the contractor first identifies in its bid:

- (1) the percentage, dollar amount and type of work to be subcontracted; and
- (2) the percentage, dollar amount and type of work to be subcontracted to LBEs.

(D) Within ten calendar days after notification of low bid, the apparent low bidder shall submit an "LBE Participation Schedule" to the contracting agency. If such schedule does not identify sufficient LBE subcontractors to meet the requirements of Administrative Code Section 6-108.1, the apparent low bidder shall submit documentation of its good faith efforts to meet such requirements.

(1) The "LBE Participation Schedule" shall include:

- (a) the name and address of each LBE that will be given a subcontract,
- (b) the percentage, dollar amount and type of work to be subcontracted to the LBE, and
- (c) the dates when the LBE subcontract work will commence and end.

- (2) The following documents shall be attached to the "LBE Participation Schedule":
- (a) verification letters from each subcontractor listed in the "LBE Participation Schedule", stating that the LBE will enter into a formal agreement for work,
 - (b) certification documents of any proposed LBE subcontractor which is not on the LBE certified list, and
 - (c) copies of the certification letter of any proposed subcontractor which is an LBE.
- (3) Documentation of good faith efforts to achieve the required LBE percentage shall include as appropriate but not limited to the following:
- (a) attendance at prebid meetings, when scheduled by the agency, to advise bidders of contract requirements;
 - (b) advertisement where appropriate in general circulation media, trade association publications and small business media of the specific subcontracts that would be at least equal to the percentage goal for LBE utilization specified by the contractor;
 - (c) written notification to association of small, minority and women contractors soliciting specific subcontractors;
 - (d) written notification by certified mail to LBE firms that their interest in the contract is solicited for specific work items and their estimated values;
 - (e) demonstration of efforts made to select portions of the work for performance by LBE firms in order to increase the likelihood of achieving the stated goal;
 - (f) documented efforts to negotiate with LBE firms for specific subcontracts, including at a minimum:
 - (i) The names, address and telephone numbers of LBE firms that are contacted;
 - (ii) A description of the information provided to LBE firms regarding the plans and specifications for portions of the work to be performed;
 - (iii) Documentation showing that no reasonable price can be obtained from LBE firms;
 - (iv) A statement of why agreements with LBE firms were not reached;
 - (g) a statement of the reason for rejecting any LBE firm which the contractor deemed to be unqualified; and
 - (h) documentation of efforts made to assist the LBE firms contacted that needed assistance in obtaining required insurance.

(E) Unless otherwise waived by the Commissioner with the approval of the Office of Economic and Financial Opportunity, failure of a proposed contractor to provide the information required by paragraphs (C) and (D) above may render the bid non-responsive and the Contract may not be awarded to the bidder. If the contractor states that it will subcontract a specific portion of the work, but can demonstrate despite good faith efforts it cannot achieve its required LBE percentage for subcontracted work until after award of Contract, the Contract may be awarded, subject to a letter of compliance from the contractor stating that it will comply with Administrative Code Section 6-108.1 and subject to approval by the Commissioner. If the contractor has not met its required LBE percentage prior to award, the contractor shall demonstrate that a good faith effort has been made subsequent to award to obtain LBEs on each subcontract until it meets the required percentage.

(F) When a bidder indicates prior to award that no work will be subcontracted, no work may be subcontracted without the prior written approval of the Commissioner, which shall be granted only if the contractor in good faith seeks LBE subcontractors at least six weeks prior to the start of work.

(G) The contractor may not substitute or change any LBE which was identified prior to award of the contract without the written permission of the Commissioner. The contractor shall make a written application to the Commissioner for permission to make such substitution or change, explaining why the contractor needs to change its LBE subcontractor and how the contractor will meet its LBE subcontracting requirement. Copies of such application must be served on the originally identified LBE by certified mail return receipt requested, as well as the proposed substitute LBE. The Commissioner shall determine whether or not to grant the contractor's request for substitution.

38. Bid Submission Requirements

The Bid Submission Requirements are set forth 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**

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I. POLICY ON SITE SAFETY

The City of New York Department of Design and Construction (DDC) is committed to a policy of injury and illness prevention and risk management for construction work that will ensure the safety and health of the workers engaged in the projects and the protection of the general public. Therefore, it is DDC's policy that work carried out by Contractors on DDC jobsites must, at a minimum, comply with applicable federal, state and city laws, rules and regulations, including without limitation:

- ❑ U. S. Department of Labor 29 Code of Federal Regulations (CFR) Part 1926 and applicable Sub-parts of Part 1910 – U.S. Occupational Safety and Health Administration (OSHA) 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).

I. 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.

A. 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

December 2013



**CITY OF NEW YORK
STANDARD CONSTRUCTION CONTRACT**

TABLE OF CONTENTS

**CHAPTER I
THE CONTRACT AND DEFINITIONS**

ARTICLE 1.	THE CONTRACT	1
ARTICLE 2.	DEFINITIONS	1

**CHAPTER II
THE WORK AND ITS PERFORMANCE**

ARTICLE 3.	CHARACTER OF THE WORK	4
ARTICLE 4.	MEANS AND METHODS OF CONSTRUCTION	4
ARTICLE 5.	COMPLIANCE WITH LAWS	5
ARTICLE 6.	INSPECTION	10
ARTICLE 7.	PROTECTION OF WORK AND OF PERSONS AND PROPERTY; NOTICES AND INDEMNIFICATION	11

**CHAPTER III
TIME PROVISIONS**

ARTICLE 8.	COMMENCEMENT AND PROSECUTION OF THE WORK	12
ARTICLE 9.	PROGRESS SCHEDULES	12
ARTICLE 10.	REQUESTS FOR INFORMATION OR APPROVAL	13
ARTICLE 11.	NOTICE OF CONDITIONS CAUSING DELAY AND DOCUMENTATION OF DAMAGES CAUSED BY DELAY	13
ARTICLE 12.	COORDINATION WITH OTHER CONTRACTORS	17
ARTICLE 13.	EXTENSION OF TIME FOR PERFORMANCE	18
ARTICLE 14.	COMPLETION AND FINAL ACCEPTANCE OF THE WORK	21
ARTICLE 15.	LIQUIDATED DAMAGES	22
ARTICLE 16.	OCCUPATION OR USE PRIOR TO COMPLETION	22

**CHAPTER IV
SUBCONTRACTS AND ASSIGNMENTS**

ARTICLE 17.	SUBCONTRACTS	23
ARTICLE 18.	ASSIGNMENTS	25

**CITY OF NEW YORK
STANDARD CONSTRUCTION CONTRACT**

TABLE OF CONTENTS

**CHAPTER V
CONTRACTOR'S SECURITY AND GUARANTY**

ARTICLE 19.	SECURITY DEPOSIT	26
ARTICLE 20.	PAYMENT GUARANTEE	26
ARTICLE 21.	RETAINED PERCENTAGE	29
ARTICLE 22.	INSURANCE	29
ARTICLE 23.	MONEY RETAINED AGAINST CLAIMS	35
ARTICLE 24.	MAINTENANCE AND GUARANTY	36

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

ARTICLE 25.	CHANGES	37
ARTICLE 26.	METHODS OF PAYMENT FOR OVERRUNS AND EXTRA WORK	37
ARTICLE 27.	RESOLUTION OF DISPUTES	40
ARTICLE 28.	RECORD KEEPING FOR EXTRA OR DISPUTED WORK	44
ARTICLE 29.	OMITTED WORK	45
ARTICLE 30.	NOTICE AND DOCUMENTATION OF COSTS AND DAMAGES; PRODUCTION OF FINANCIAL RECORDS	45

**CHAPTER VII
POWERS OF THE RESIDENT ENGINEER, THE ENGINEER
OR ARCHITECT AND THE COMMISSIONER**

ARTICLE 31.	THE RESIDENT ENGINEER	46
ARTICLE 32.	THE ENGINEER OR ARCHITECT OR PROJECT MANAGER	47
ARTICLE 33.	THE COMMISSIONER	47
ARTICLE 34.	NO ESTOPPEL	48

**CHAPTER VIII
LABOR PROVISIONS**

ARTICLE 35.	EMPLOYEES	48
ARTICLE 36.	NO DISCRIMINATION	50
ARTICLE 37.	LABOR LAW REQUIREMENTS	52
ARTICLE 38.	PAYROLL REPORTS	57
ARTICLE 39.	DUST HAZARDS	58

**CITY OF NEW YORK
STANDARD CONSTRUCTION CONTRACT**

TABLE OF CONTENTS

**CHAPTER IX
PARTIAL AND FINAL PAYMENTS**

ARTICLE 40.	CONTRACT PRICE	58
ARTICLE 41.	BID BREAKDOWN ON LUMP SUM	58
ARTICLE 42.	PARTIAL PAYMENTS	58
ARTICLE 43.	PROMPT PAYMENT	59
ARTICLE 44.	SUBSTANTIAL COMPLETION PAYMENT	59
ARTICLE 45.	FINAL PAYMENT	60
ARTICLE 46.	ACCEPTANCE OF FINAL PAYMENT	61
ARTICLE 47.	APPROVAL BY PUBLIC DESIGN COMMISSION	62

**CHAPTER X
CONTRACTOR'S DEFAULT**

ARTICLE 48.	COMMISSIONER'S RIGHT TO DECLARE CONTRACTOR IN DEFAULT	62
ARTICLE 49.	EXERCISE OF THE RIGHT TO DECLARE DEFAULT	64
ARTICLE 50.	QUITTING THE SITE	64
ARTICLE 51.	COMPLETION OF THE WORK	64
ARTICLE 52.	PARTIAL DEFAULT	64
ARTICLE 53.	PERFORMANCE OF UNCOMPLETED WORK	65
ARTICLE 54.	OTHER REMEDIES	65

**CHAPTER XI
MISCELLANEOUS PROVISIONS**

ARTICLE 55.	CONTRACTOR'S WARRANTIES	66
ARTICLE 56.	CLAIMS AND ACTIONS THEREON	66
ARTICLE 57.	INFRINGEMENT	66
ARTICLE 58.	NO CLAIM AGAINST OFFICERS, AGENTS OR EMPLOYEES	67
ARTICLE 59.	SERVICES OF NOTICES	67
ARTICLE 60.	UNLAWFUL PROVISIONS DEEMED STRICKEN FROM CONTRACT	67
ARTICLE 61.	ALL LEGAL PROVISIONS DEEMED INCLUDED	67
ARTICLE 62.	TAX EXEMPTION	67
ARTICLE 63.	INVESTIGATION(S) CLAUSE	69
ARTICLE 64.	TERMINATION BY THE CITY	71
ARTICLE 65.	CHOICE OF LAW, CONSENT TO JURISDICTION AND VENUE	73

**CITY OF NEW YORK
STANDARD CONSTRUCTION CONTRACT**

TABLE OF CONTENTS

CHAPTER XI (CONT'D)

MISCELLANEOUS PROVISIONS

ARTICLE 66.	PARTICIPATION IN AN INTERNATIONAL BOYCOTT	74
ARTICLE 67.	LOCALLY BASED ENTERPRISE PROGRAM	74
ARTICLE 68.	ANTITRUST	75
ARTICLE 69.	MACBRIDE PRINCIPLES PROVISIONS	75
ARTICLE 70.	ELECTRONIC FILING/NYC DEVELOPMENT HUB	77
ARTICLE 71.	PROHIBITION OF TROPICAL HARDWOODS	77
ARTICLE 72.	CONFLICTS OF INTEREST	78
ARTICLE 73.	MERGER CLAUSE	78
ARTICLE 74.	STATEMENT OF WORK	78
ARTICLE 75.	COMPENSATION TO BE PAID TO CONTRACTOR	78
ARTICLE 76.	ELECTRONIC FUNDS TRANSFER	78
ARTICLE 77.	RECORDS RETENTION	79
ARTICLE 78.	PARTICIPATION BY MINORITY-OWNED AND WOMEN-OWNED ENTERPRISES IN CITY PROCUREMENT	79
SIGNATURES		85
ACKNOWLEDGMENT BY CORPORATION		86
ACKNOWLEDGMENT BY PARTNERSHIP		86
ACKNOWLEDGMENT BY INDIVIDUAL		86
ACKNOWLEDGMENT BY COMMISSIONER		87
AUTHORITY		88
COMPTROLLER'S CERTIFICATE		88
MAYOR'S CERTIFICATE		89
PERFORMANCE BOND #1		90
PERFORMANCE BOND #2		94
PAYMENT BOND		98

WITNESSETH:

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

**CHAPTER I
THE CONTRACT AND DEFINITIONS**

ARTICLE 1. THE CONTRACT

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

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

1.1.2 The Contract Drawings and Specifications;

1.1.3 The General Conditions and Special Conditions, if any;

1.1.4 The Contract;

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

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

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

ARTICLE 2. DEFINITIONS

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

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

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

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

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

2.1.5 **"City"** shall mean the City of New York.

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

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

2.1.8 **"Comptroller"** shall mean the Comptroller of the City of New York.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

2.1.31 **"Small Tools"** shall mean items that are ordinarily required for a worker's job function, including but not limited to, equipment that ordinarily has no licensing, insurance

or substantive storage costs associated with it; such as circular and chain saws, impact drills, threaders, benders, wrenches, socket tools, etc.

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

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

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

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

CHAPTER II THE WORK AND ITS PERFORMANCE

ARTICLE 3. CHARACTER OF THE WORK

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

ARTICLE 4. MEANS AND METHODS OF CONSTRUCTION

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

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

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

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

4.2 The Engineer's approval of the Contractor's **Means and Methods of Construction**, or his/her failure to exercise his/her right to reject such means or methods, shall not relieve the Contractor of its obligation to complete the **Work** as provided in this **Contract**; nor shall the exercise of such right to reject create a cause of action for damages.

ARTICLE 5. COMPLIANCE WITH LAWS

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

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

5.3 **Noise Control Code provisions.**

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

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

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

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

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

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

5.4.1(c) "**Nonroad Engine**" means an internal combustion engine (including the fuel system) that is not used in a Motor Vehicle or a vehicle used solely for competition, or that is not subject to standards promulgated under Section 7411 or Section 7521 of

Title 42 of the United States Code, except that this term shall apply to internal combustion engines used to power generators, compressors or similar equipment used in any construction program or project.

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

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

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

5.4.2 Ultra Low Sulfur Diesel Fuel

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

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

5.4.2(c) Contractors shall not be required to comply with this Article 5.4.2 where the City Agency letting this Contract makes a written finding, which is approved, in writing, by the DEP Commissioner, that a sufficient quantity of Ultra Low Sulfur Diesel Fuel, or diesel fuel that has a sulfur content of no more than thirty parts per million (30 ppm) is not available to meet the requirements of Section 24-163.3 of the Administrative Code, provided that such Contractor in its fulfillment of the requirements of this Contract, to the extent practicable, shall use whatever quantity of Ultra Low Sulfur Diesel Fuel or diesel fuel that has a sulfur content of no more than thirty parts per million (30 ppm) is available. Any finding made pursuant to this Article 5.4.2(c) shall expire after sixty (60) Days, at which time the requirements of this Article 5.4.2 shall be in full force and effect unless the City Agency renews the finding in writing and such renewal is approved by the DEP Commissioner.

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

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

5.4.3 Best Available Technology

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

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

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

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

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

5.4.3(d)(ii) Where the DEP Commissioner has issued a written waiver based upon the **Contractor** having demonstrated to the DEP Commissioner that the use of the best available technology for reducing the emission of pollutants might endanger the operator of such vehicle or those working near such vehicle, due to engine malfunction, the **Contractor** shall use whatever technology for reducing the emission of pollutants, if any, is available and appropriate for such vehicle, which would not endanger the operator of such vehicle or those working near such vehicle.

5.4.3(d)(iii) In determining which technology to use for the purposes of Articles 5.4.3(d)(i) and 5.4.3(d)(ii) above, the **Contractor** shall primarily consider the reduction in emissions of particulate matter and secondarily consider the reduction in emissions of nitrogen oxides associated with the use of such

technology, which shall in no event result in an increase in the emissions of either such pollutant.

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

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

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

5.4.5 Compliance

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

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

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

5.4.6 Reporting

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

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

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

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

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

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

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

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

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

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

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

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

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

5.5.1(d) "Nonroad Vehicle" means a vehicle that is powered by a Nonroad Engine, fifty (50) horsepower (HP) and greater, and that is not a Motor Vehicle or a vehicle used solely for competition, which shall include, but not be limited to, excavators, backhoes, cranes, compressors, generators, bulldozers, and similar equipment, except

that this terms shall not apply to horticultural maintenance vehicles used for landscaping purposes that are powered by a Nonroad Engine of sixty-five (65) HP or less and that are not used in any construction program or project.

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

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

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

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

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

ARTICLE 6. INSPECTION

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

6.2 The **Contractor's** obligation hereunder shall include the uncovering or taking down of finished **Work** and its restoration thereafter; provided, however, that the order to uncover, take down and restore shall be in writing, and further provided that if **Work** thus exposed proves satisfactory, and if the **Contractor** has complied with Article 6.1, such uncovering or taking down and restoration shall be considered an item of **Extra Work** to be paid for in accordance with the provisions of Article 26. If the **Work** thus exposed proves unsatisfactory, the **City** has no obligation to compensate the **Contractor** for the uncovering, taking down or restoration.

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

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

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

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

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

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

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

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

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

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

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

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

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

CHAPTER III TIME PROVISIONS

ARTICLE 8. COMMENCEMENT AND PROSECUTION OF THE WORK

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

ARTICLE 9. PROGRESS SCHEDULES

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

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

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

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

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

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

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

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

ARTICLE 10. REQUESTS FOR INFORMATION OR APPROVAL

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

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

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

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

11.1.1 Within 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 as provided for in this Article 11, 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 being incurred, the **Contractor** shall submit to the **Commissioner** verified written statements of the details and the amounts of such damages, together with documentary evidence of such damages, ("statement of delay damages") as further detailed in Article 11.6. 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. On failure of the **Contractor** to strictly comply with all of 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.

11.1.3 Within 60 days of submission of the final verified statement of claims pursuant to Article 44, the **Commissioner** shall make a determination as to whether a compensable delay has occurred and, if so, the amount of compensation due the **Contractor**. Notwithstanding the above, the **Commissioner** may make a determination as to whether a compensable delay has occurred at any time after the **Contractor's** first submission of a statement of delay damages provided, however, that the amount of compensation due to the **Contractor** will not be determined until the **Commissioner** determines that the **Work** is delayed after the date set for substantial completion.

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**.

11.4 Compensable Delays

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

11.4.1.1 The failure of the **City** to take reasonable measures to coordinate and progress the **Work**, except that the **City** shall not be responsible for the **Contractor's** obligation to coordinate and progress the **Work** of its **Subcontractors**.

11.4.1.2 Extended delays attributable to the **City** in the review or issuance of change orders, in shop drawing reviews and approvals or as a result of the cumulative impact of multiple change orders, which have a verifiable impact on **Project** costs.

11.4.1.3 The unavailability of the **Site** for an extended period of time that significantly affects the scheduled completion of the **Contract**.

- 11.4.1.4 The issuance by the **Engineer** of a stop work order relative to a substantial portion of the **Work** for a period exceeding thirty (30) **Days**, that was not brought about through any action or omission of the **Contractor**.
- 11.4.1.5 Differing site conditions that were neither known nor reasonably ascertainable on a pre-bid inspection of the **Site** or review of the bid documents or other publicly available sources, and that are not ordinarily encountered in the **Project's** geographical area or neighborhood or in the type of **Work** to be performed.
- 11.4.1.6 Delays caused by the **City's** bad faith or its willful, malicious, or grossly negligent conduct;
- 11.4.1.7 Delays not contemplated by the parties;
- 11.4.1.8 Delays so unreasonable that they constitute an intentional abandonment of the **Contract** by the **City**; and
- 11.4.1.9 Delays resulting from the **City's** breach of a fundamental obligation of the **Contract**.

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

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

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

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

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

11.5.3 Restraining orders, injunctions or judgments issued by a court which were caused by a Contractor's submission, action or inaction or by a Contractor's **Means and Methods** of

Construction, or by third parties, unless such order, injunction or judgment was the result of an action or omission by the City;

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

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

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

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

11.6 Required Content of Submission of Statement of Delay Damages

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

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

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

11.6.1.3 The amount of additional compensation sought and a breakdown of that amount into categories as described in Article 26.2, subject to the limitations set forth in Article 11.7.

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

11.7 Recoverable Costs

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

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

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

11.7.1.3 Reasonable rental value of necessary plant and equipment other than small tools, plus fuel/energy costs according to the applicable formula set forth in Articles 26.2.4 and/or 26.2.8, based on time and material records;

11.7.1.4 Insurance and bond costs;

11.7.1.5 Extended field office costs;

11.7.1.6 Extended Site overhead; and

11.7.1.7 Extended home office overhead.

11.7.2 Recoverable Subcontractor Costs. When the **Work** is performed by a **Subcontractor**, the **Contractor** may be paid the actual and necessary costs of such subcontracted **Work** as outlined above in Articles 11.7.1.1 through 11.7.1.6, and an

additional overhead of five (5%) percent of the costs outlined in Articles 11.7.1.1 through 11.7.1.3.

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

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

11.8 Determinations under this Article 11 are not subject to the jurisdiction of the Contract Dispute Resolution Board pursuant to the dispute resolution process set forth in Article 27.

11.9 If the parties agree, pursuant to Article 11.1.3 above, that a compensable delay has occurred and agree on the amount of compensation, payment may be made pursuant to a written change order. Payment pursuant to such change order is subject to pre-audit by the **Engineering Audit Officer**, and may be post-audited by the **Comptroller** and/or the **Agency**.

ARTICLE 12. COORDINATION WITH OTHER CONTRACTORS

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

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

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

the City for any damages relating to or arising out of any directions issued by the **Engineer** pursuant to this Article 12 (including but not limited to the failure of any **Other Contractor** to comply or promptly comply with such directions), or the failure of 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 the **Contractor's** failure to comply with the **Engineer's** directions promptly. Insofar as the facts and Law relating to any claim would preclude the City from being completely indemnified by the **Contractor**, the City shall be partially indemnified by the **Contractor** to the fullest extent provided by Law.

12.5 Should the **Contractor** sustain any damage through any act or omission of any **Other Contractor** having a contract with the City for the performance of work upon the Site or of work which may be necessary to be performed for the proper prosecution of the Work to be performed hereunder, or through any act or omission of a subcontractor of such **Other Contractor**, the **Contractor** shall have no claim against the City for such damage, but shall have a right to recover such damage from the **Other Contractor** under the provision similar to the following provisions which apply to this Contract and have been or will be inserted in the contracts with such **Other Contractors**:

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

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

ARTICLE 13. EXTENSION OF TIME FOR PERFORMANCE

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

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

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

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

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

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

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

13.4 The **Contractor** shall not be entitled to receive a separate extension of time for each of several causes of delay operating concurrently, but, if at all, only for the actual period of delay in completion of the **Work** as determined by the **ACCO** or the Board, irrespective of the number of causes contributing to produce such delay. If one of several causes of delay operating concurrently results from any act, fault or omission of the **Contractor** or of its **Subcontractors** or **Materialmen**, and would of itself (irrespective of the concurrent causes) have delayed the **Work**, no extension of time will be allowed for the period of delay resulting from such act, fault or omission.

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

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

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

13.8 Application for Extension of Time:

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

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

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

13.8.1(c) Original total bid price;

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

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

13.8.1(f) The extension of time requested.

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

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

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

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

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

13.9 Analysis and Approval of Time Extensions:

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

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

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

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

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

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

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

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

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

ARTICLE 14. COMPLETION AND FINAL ACCEPTANCE OF THE WORK

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

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

14.2.1 Inspection: The Engineer has inspected the Work and has made a written determination that it is substantially complete.

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

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

14.4 Determining the Date of Final Acceptance: The Work will be accepted as final and complete as of the date of the Engineer's 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.

14.5 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.

14.6 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.

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

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

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

ARTICLE 16. OCCUPATION OR USE PRIOR TO COMPLETION

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

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

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

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

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

CHAPTER IV SUBCONTRACTS AND ASSIGNMENTS

ARTICLE 17. SUBCONTRACTS

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

ARTICLE 18. ASSIGNMENTS

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

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

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

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

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

CHAPTER V
CONTRACTOR'S SECURITY AND GUARANTEE

ARTICLE 19. SECURITY DEPOSIT

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

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

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

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

19.3.2 To indemnify the City against any and all claims.

ARTICLE 20. PAYMENT GUARANTEE

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

20.9 The payment guarantee made pursuant to this Article 20 shall be construed in a manner consistent with Section 137 of the State Finance Law and shall afford to persons furnishing labor or materials to the **Contractor** or its **Subcontractors** in the prosecution of the **Work** under this **Contract** all of the rights and remedies afforded to such persons by such section, including but not limited to, the right

to commence an action against the City on the payment guarantee provided by this Article 20 within the one-year limitations period set forth in Section 137(4)(b).

ARTICLE 21. RETAINED PERCENTAGE

21.1 If this **Contract** requires one hundred (100%) percent performance and payment security, then as further security for the faithful performance of this **Contract**, the **Commissioner** shall deduct, and retain until the substantial completion of the **Work**, five (5%) percent of the value of **Work** certified for payment in each partial payment voucher.

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

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

ARTICLE 22. INSURANCE

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

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

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

22.1.1(b) Such Commercial General Liability Insurance shall name all other entities designated as additional insureds in Schedule A but only for claims arising from the Contractor's operations under this Contract, with coverage at least as broad as the latest edition of ISO Form CG 20 26.

22.1.1(c) If the Work requires a permit from the Department of Buildings pursuant to 1 RCNY Section 101-08, at http://www.nyc.gov/html/dob/downloads/rules/1_RCNY_101-08.pdf, the Contractor shall provide Commercial General Liability Insurance with limits of at least those required by 1 RCNY section 101-08. If the Work does not require such a permit, the minimum limits shall be those provided for in Schedule A.

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

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

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

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

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

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

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

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

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

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

22.1.7 Marine Insurance:

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

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

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

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

22.2 General Requirements for Insurance Coverage and Policies:

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

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

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

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

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

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

22.3 Proof of Insurance:

22.3.1 For all types of insurance required by Article 22.1 and Schedule A, except for insurance required by Articles 22.1.4 and 22.1.7, the **Contractor** shall file proof of insurance in accordance with this Article 22.3 within ten (10) **Days** of award. For insurance provided pursuant to Articles 22.1.4 and 22.1.7, proof shall be filed by a date specified by the **Commissioner** or ten (10) **Days** prior to the commencement of the portion of the **Work** covered by such policy, whichever is earlier.

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

22.3.3 For policies provided pursuant to all of Article 22.1 other than Article 22.1.2, the **Contractor** shall submit one or more Certificates of Insurance on forms acceptable to the **Commissioner**. All such Certificates of Insurance shall certify (a) the issuance and effectiveness of such policies of insurance, each with the specified minimum limits (b) for insurance secured pursuant to Article 22.1.1 that the **City** and any other entity specified in Schedule A is an Additional Insured with coverage at least as broad as the most recent edition of ISO Forms CG 20 10, CG 20 37, and CG 20 26, as applicable; (c) in the event insurance is required pursuant to Article 22.1.6 and/or Article 22.1.7, that the **City** is an Additional Insured thereunder; (d) the company code issued to the insurance company by the National Association of Insurance Commissioners (the NAIC number); and (e) the number assigned to the **Contract** by the **City**. All such Certificates of Insurance shall be accompanied by either a duly executed "Certification by Broker" in the form contained in Part III of Schedule A or copies of all policies referenced in such Certificate of Insurance as certified by an authorized representative of the issuing insurance carrier. If any policy is not available at the time of submission, certified binders may be submitted until such time as the policy is available, at which time a certified copy of the policy shall be submitted.

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

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

22.4 Operations of the Contractor:

22.4.1 The **Contractor** shall not commence the **Work** unless and until all required certificates have been submitted to and accepted by the **Commissioner**. Acceptance by the **Commissioner** of a certificate does not excuse the **Contractor** from securing insurance

consistent with all provisions of this Article 22 or of any liability arising from its failure to do so.

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

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

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

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

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

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

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

22.7 Apart from damages or losses covered by insurance provided pursuant to Articles 22.1.2, 22.1.3, or 22.1.5, the **Contractor** waives all rights against the **City**, including its officials and employees, for any damages or losses that are covered under any insurance required under this Article 22 (whether or not such insurance is actually procured or claims are paid thereunder) or any other insurance applicable to the operations of the **Contractor** and/or its employees, agents, or **Subcontractors**.

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

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

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

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

ARTICLE 23. MONEY RETAINED AGAINST CLAIMS

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

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

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

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

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

23.2 If an action on such claim is timely commenced and the liability of the **City**, or the **Contractor**, or both, shall have been established therein by a final judgment of a court of competent jurisdiction, or if such claim shall have been admitted by the **Contractor** to be valid, the **Comptroller**

shall pay such judgment or admitted claim out of the monies retained by the **Comptroller** under the provisions of this Article 23, and return the balance, if any, without interest, to the **Contractor**.

ARTICLE 24. MAINTENANCE AND GUARANTY

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

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

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

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

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

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

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

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

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

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

ARTICLE 25. CHANGES

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

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

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

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

25.3.2 By agreement of a fixed price; and/or

25.3.3 By time and material records; and/or

25.3.4 In any other manner approved by the CCPO.

25.4 All payments for change orders are subject to pre-audit by the **Engineering Audit Officer** and may be post-audited by the **Comptroller** and/or the Agency.

ARTICLE 26. METHODS OF PAYMENT FOR OVERRUNS AND EXTRA WORK

26.1 Overrun of Unit Price Item: An overrun is any quantity of a unit price item which the Contractor is directed to provide which is in excess of one hundred twenty-five (125%) percent of the estimated quantity for that item set forth in the bid schedule.

26.1.1 For any unit price item, the Contractor will be paid at the unit price bid for any quantity up to one hundred twenty-five (125%) percent of the estimated quantity for that item set forth in the bid schedule. If during the progress of the Work, the actual quantity of any unit price item required to complete the Work approaches the estimated quantity for that item, and for any reason it appears that the actual quantity of any unit price item necessary to complete the Work will exceed the estimated quantity for that item by twenty-five (25%) percent, the Contractor shall immediately notify the Engineer of such anticipated overrun. The Contractor shall not be compensated for any quantity of a unit price item provided which is in excess of one hundred twenty-five (125%) percent of the estimated quantity for that item set forth in the bid schedule without written authorization from the Engineer.

26.1.2 If the actual quantity of any unit price item necessary to complete the Work will exceed one hundred twenty five (125%) percent of the estimated quantity for that item set forth in the bid schedule, the City reserves the right and the Contractor agrees to negotiate a new unit price for such item. In no event shall such negotiated new unit price exceed the unit bid price. If the City and Contractor cannot agree on a new unit price, then the City shall order the Contractor and the Contractor agrees to provide additional quantities of the

item on the basis of time and material records for the actual and reasonable cost as determined under Article 26.2, but in no event at a unit price exceeding the unit price bid.

26.2 Extra Work: For **Extra Work** where payment is by agreement on a fixed price in accordance with Article 25.3.2, the price to be paid for such **Extra Work** shall be based on the fair and reasonable estimated cost of the items set forth below. For **Extra Work** where payment is based on time and material records in accordance with Article 25.3.3, the price to be paid for such **Extra Work** shall be the actual and reasonable cost of the items set forth below, calculated in accordance with the formula specified therein, if any.

26.2.1 Necessary materials (including transportation to the Site); plus

26.2.2 Necessary direct labor, including payroll taxes (subject to statutory wage caps) and supplemental benefits; plus

26.2.3 Sales and personal property taxes, if any, required to be paid on materials not incorporated into such **Extra Work**; plus

26.2.4 Reasonable rental value of **Contractor**-owned (or **Subcontractor**-owned, as applicable), necessary plant and equipment other than **Small Tools**, plus fuel/energy costs. Except for fuel costs for pick-up trucks which shall be reimbursed based on a consumption of five (5) gallons per shift, fuel costs shall be reimbursed based on actual costs or, in the absence of auditable documentation, the following fuel consumption formula per operating hour: $(.035) \times (\text{HP rating}) \times (\text{Fuel cost/gallon})$. Reasonable rental value is defined as the lower of either seventy-five percent of the monthly prorated rental rates established in "The AED Green Book, Rental Rates and Specifications for Construction Equipment" published by Equipment Watch (the "Green Book"), or seventy-five percent of the monthly prorated rental rates established in the "Rental Rate Blue Book for Construction Equipment" published by Equipment Watch (the "Blue Book") (the applicable Blue Book rate being for rental only without the addition of any operational costs listed in the Blue Book). The reasonable rental value is deemed to be inclusive of all operating costs except for fuel/energy consumption and equipment operator's wages/costs. For multiple shift utilization, reimbursement shall be calculated as follows: first shift shall be seventy-five (75%) percent of such rental rates; second shift shall be sixty (60%) percent of the first shift rate; and third shift shall be forty (40%) percent of the first shift rate. Equipment on standby shall be reimbursed at one-third (1/3) the prorated monthly rental rate. **Contractor**-owned (or **Subcontractor**-owned, as applicable) equipment includes equipment from rental companies affiliated with or controlled by the **Contractor** (or **Subcontractor**, as applicable), as determined by the Commissioner. In establishing cost reimbursement for non-operating **Contractor**-owned (or **Subcontractor**-owned, as applicable) equipment (scaffolding, sheeting systems, road plates, etc.), the City may restrict reimbursement to a purchase-salvage/life cycle basis if less than the computed rental costs; plus

26.2.5 Necessary installation and dismantling of such plant and equipment, including transportation to and from the Site, if any, provided that, in the case of non-**Contractor**-owned (or non-**Subcontractor**-owned, as applicable) equipment rented from a third party, the cost of installation and dismantling are not allowable if such costs are included in the rental rate; plus

26.2.6 Necessary fees charged by governmental entities; plus

26.2.7 Necessary construction-related service fees charged by non-governmental entities, such as landfill tipping fees; plus

26.2.8 Reasonable rental costs of non-Contractor-owned (or non-Subcontractor-owned, as applicable) necessary plant and equipment other than **Small Tools**, plus fuel/energy costs. Except for fuel costs for pick-up trucks which shall be reimbursed based on a consumption of five (5) gallons per shift, fuel costs shall be reimbursed based on actual costs or, in the absence of auditable documentation, the following fuel consumption formula per hour of operation: $(.035) \times (\text{HP rating}) \times (\text{Fuel cost/gallon})$. In lieu of renting, the City reserves the right to direct the purchase of non-operating equipment (scaffolding, sheeting systems, road plates, etc.), with payment on a purchase-salvage/life cycle basis, if less than the projected rental costs; plus

26.2.9 Workers' Compensation Insurance, and any insurance coverage expressly required by the City for the performance of the **Extra Work** which is different than the types of insurance required by Article 22 and Schedule A of the General Conditions. The cost of Workers' Compensation Insurance is subject to applicable payroll limitation caps and shall be based upon the carrier's Manual Rate for such insurance derived from the applicable class Loss Cost ("LC") and carrier's Lost Cost Multiplier ("LCM") approved by the New York State Department of Financial Services, and with the exception of experience rating, rate modifiers as promulgated by the New York Compensation Insurance Rating Board ("NYCIRB"); plus

26.2.10 Additional costs incurred as a result of the **Extra Work** for performance and payment bonds; plus

26.2.11 Twelve percent (12%) percent of the total of items in Articles 26.2.1 through 26.2.5 as compensation for overhead, except that no percentage for overhead will be allowed on **Payroll Taxes** or on the premium portion of overtime pay or on sales and personal property taxes. Overhead shall include without limitation, all costs and expenses in connection with administration, management superintendence, small tools, and insurance required by Schedule A of the General Conditions other than Workers' Compensation Insurance; plus

26.2.12 Ten (10%) percent of the total of items in Articles 26.2.1 through 26.2.5, plus the items in Article 26.2.11, as compensation for profit, except that no percentage for profit will be allowed on **Payroll Taxes** or on the premium portion of overtime pay or on sales and personal property taxes; plus

26.2.13 Five (5%) percent of the total of items in Articles 26.2.6 through 26.2.10 as compensation for overhead and profit.

26.3 Where the **Extra Work** is performed in whole or in part by other than the Contractor's own forces pursuant to Article 26.2, the Contractor shall be paid, subject to pre-audit by the **Engineering Audit Officer**, the cost of such **Work** computed in accordance with Article 26.2 above, plus an additional allowance of five (5%) percent to cover the Contractor's overhead and profit.

26.4 Where a change is ordered, involving both **Extra Work** and omitted or reduced **Contract Work**, the **Contract** price shall be adjusted, subject to pre-audit by the EAO, in an amount based on the difference between the cost of such **Extra Work** and of the omitted or reduced **Work**.

26.5 Where the Contractor and the Commissioner can agree upon a fixed price for **Extra Work** in accordance with Article 25.3.2 or another method of payment for **Extra Work** in accordance with Article

25.3.4, or for **Extra Work** ordered in connection with omitted **Work**, such method, subject to pre-audit by the **EAO**, may, at the option of the **Commissioner**, be substituted for the cost plus a percentage method provided in Article 26.2; provided, however, that if the **Extra Work** is performed by a **Subcontractor**, the **Contractor** shall not be entitled to receive more than an additional allowance of five (5%) percent for overhead and profit over the cost of such **Subcontractor's Work** as computed in accordance with Article 26.2.

ARTICLE 27. RESOLUTION OF DISPUTES

27.1 All disputes between the **City** and the **Contractor** of the kind delineated in this Article 27.1 that arise under, or by virtue of, this **Contract** shall be finally resolved in accordance with the provisions of this Article 27 and the **PPB Rules**. This procedure for resolving all disputes of the kind delineated herein shall be the exclusive means of resolving any such disputes.

27.1.1 This Article 27 shall not apply to disputes concerning matters dealt with in other sections of the **PPB Rules**, or to disputes involving patents, copyrights, trademarks, or trade secrets (as interpreted by the courts of New York State) relating to proprietary rights in computer software.

27.1.2 This Article 27 shall apply only to disputes about the scope of **Work** delineated by the **Contract**, the interpretation of **Contract** documents, the amount to be paid for **Extra Work** or disputed work performed in connection with the **Contract**, the conformity of the **Contractor's Work** to the **Contract**, and the acceptability and quality of the **Contractor's Work**; such disputes arise when the **Engineer**, **Resident Engineer**, **Engineering Audit Officer**, or other designee of the **Commissioner** makes a determination with which the **Contractor** disagrees.

27.2 All determinations required by this Article 27 shall be made in writing clearly stated, with a reasoned explanation for the determination based on the information and evidence presented to the party making the determination. Failure to make such determination within the time required by this Article 27 shall be deemed a non-determination without prejudice that will allow application to the next level.

27.3 During such time as any dispute is being presented, heard, and considered pursuant to this Article 27, the **Contract** terms shall remain in force and the **Contractor** shall continue to perform **Work** as directed by the **ACCO** or the **Engineer**. Failure of the **Contractor** to continue **Work** as directed shall constitute a waiver by the **Contractor** of its claim.

27.4 Presentation of Disputes to Commissioner.

Notice of Dispute and Agency Response. The **Contractor** shall present its dispute in writing ("Notice of Dispute") to the **Commissioner** within thirty (30) Days of receiving written notice of the determination or action that is the subject of the dispute. This notice requirement shall not be read to replace any other notice requirements contained in the **Contract**. The Notice of Dispute shall include all the facts, evidence, documents, or other basis upon which the **Contractor** relies in support of its position, as well as a detailed computation demonstrating how any amount of money claimed by the **Contractor** in the dispute was arrived at. Within thirty (30) Days after receipt of the detailed written submission comprising the complete Notice of Dispute, the **Engineer**, **Resident Engineer**, **Engineering Audit Officer**, or other designee of the **Commissioner** shall submit to the **Commissioner** all materials he or she deems pertinent to the dispute. Following initial submissions to the **Commissioner**, either party may demand of the other the production of any document or other material the demanding party believes may be relevant to the dispute. The requested party shall produce all relevant materials that are not otherwise

protected by a legal privilege recognized by the courts of New York State. Any question of relevancy shall be determined by the **Commissioner** whose decision shall be final. Willful failure of the **Contractor** to produce any requested material whose relevancy the **Contractor** has not disputed, or whose relevancy has been affirmatively determined, shall constitute a waiver by the **Contractor** of its claim.

27.4.1 **Commissioner Inquiry.** The **Commissioner** shall examine the material and may, in his or her discretion, convene an informal conference with the **Contractor**, the **ACCO**, and the **Engineer, Resident Engineer, Engineering Audit Officer**, or other designee of the **Commissioner** to resolve the issue by mutual consent prior to reaching a determination. The **Commissioner** may seek such technical or other expertise as he or she shall deem appropriate, including the use of neutral mediators, and require any such additional material from either or both parties as he or she deems fit. The **Commissioner's** ability to render, and the effect of, a decision hereunder shall not be impaired by any negotiations in connection with the dispute presented, whether or not the **Commissioner** participated therein. The **Commissioner** may or, at the request of any party to the dispute, shall compel the participation of any **Other Contractor** with a contract related to the **Work** of this **Contract**, and that **Contractor** shall be bound by the decision of the **Commissioner**. Any **Other Contractor** thus brought into the dispute resolution proceeding shall have the same rights and obligations under this Article 27 as the **Contractor** initiating the dispute.

27.4.2 **Commissioner Determination.** Within thirty (30) Days after the receipt of all materials and information, or such longer time as may be agreed to by the parties, the **Commissioner** shall make his or her determination and shall deliver or send a copy of such determination to the **Contractor**, the **ACCO**, and **Engineer, Resident Engineer, Engineering Audit Officer**, or other designee of the **Commissioner**, as applicable, together with a statement concerning how the decision may be appealed.

27.4.3 **Finality of Commissioner's Decision.** The **Commissioner's** decision shall be final and binding on all parties, unless presented to the Contract Dispute Resolution Board pursuant to this Article 27. The **City** may not take a petition to the Contract Dispute Resolution Board. However, should the **Contractor** take such a petition, the **City** may seek, and the Contract Dispute Resolution Board may render, a determination less favorable to the **Contractor** and more favorable to the **City** than the decision of the **Commissioner**.

27.5 **Presentation of Dispute to the Comptroller.** Before any dispute may be brought by the **Contractor** to the Contract Dispute Resolution Board, the **Contractor** must first present its claim to the **Comptroller** for his or her review, investigation, and possible adjustment.

27.5.1 **Time, Form, and Content of Notice.** Within thirty (30) Days of its receipt of a decision by the **Commissioner**, the **Contractor** shall submit to the **Comptroller** and to the **Commissioner** a Notice of Claim regarding its dispute with the **Agency**. The Notice of Claim shall consist of (i) a brief written statement of the substance of the dispute, the amount of money, if any, claimed and the reason(s) the **Contractor** contends the dispute was wrongly decided by the **Commissioner**; (ii) a copy of the written decision of the **Commissioner**; and (iii) a copy of all materials submitted by the **Contractor** to the **Agency**, including the Notice of Dispute. The **Contractor** may not present to the **Comptroller** any material not presented to the **Commissioner**, except at the request of the **Comptroller**.

27.5.2 **Response.** Within thirty (30) Days of receipt of the Notice of Claim, the **Agency** shall make available to the **Comptroller** a copy of all material submitted by the **Agency** to the **Commissioner** in connection with the dispute. The **Agency** may not present to the

Comptroller any material not presented to the **Commissioner** except at the request of the **Comptroller**.

27.5.3 Comptroller Investigation. The **Comptroller** may investigate the claim in dispute and, in the course of such investigation, may exercise all powers provided in Sections 7-201 and 7-203 of the Administrative Code. In addition, the **Comptroller** may demand of either party, and such party shall provide, whatever additional material the **Comptroller** deems pertinent to the claim, including original business records of the **Contractor**. Willful failure of the **Contractor** to produce within fifteen (15) Days any material requested by the **Comptroller** shall constitute a waiver by the **Contractor** of its claim. The **Comptroller** may also schedule an informal conference to be attended by the **Contractor**, **Agency** representatives, and any other personnel desired by the **Comptroller**.

27.5.4 Opportunity of Comptroller to Compromise or Adjust Claim. The **Comptroller** shall have forty-five (45) Days from his or her receipt of all materials referred to in Article 27.5.3 to investigate the disputed claim. The period for investigation and compromise may be further extended by agreement between the **Contractor** and the **Comptroller**, to a maximum of ninety (90) Days from the **Comptroller's** receipt of all materials. The **Contractor** may not present its petition to the Contract Dispute Resolution Board until the period for investigation and compromise delineated in this Article 27.5.4 has expired. In compromising or adjusting any claim hereunder, the **Comptroller** may not revise or disregard the terms of the **Contract** between the parties.

27.6 Contract Dispute Resolution Board. There shall be a Contract Dispute Resolution Board composed of:

27.6.1 The chief administrative law judge of the Office of Administrative Trials and Hearings (OATH) or his/her designated OATH administrative law judge, who shall act as chairperson, and may adopt operational procedures and issue such orders consistent with this Article 27 as may be necessary in the execution of the Contract Dispute Resolution Board's functions, including, but not limited to, granting extensions of time to present or respond to submissions;

27.6.2 The **CCPO** or his/her designee; any designee shall have the requisite background to consider and resolve the merits of the dispute and shall not have participated personally and substantially in the particular matter that is the subject of the dispute or report to anyone who so participated; and

27.6.3 A person with appropriate expertise who is not an employee of the City. This person shall be selected by the presiding administrative law judge from a prequalified panel of individuals, established and administered by OATH with appropriate background to act as decision-makers in a dispute. Such individual may not have a contract or dispute with the City or be an officer or employee of any company or organization that does, or regularly represents persons, companies, or organizations having disputes with the City.

27.7 Petition to the Contract Dispute Resolution Board. In the event the claim has not been settled or adjusted by the **Comptroller** within the period provided in this Article 27, the **Contractor**, within thirty (30) Days thereafter, may petition the Contract Dispute Resolution Board to review the **Commissioner's** determination.

27.7.1 Form and Content of Petition by Contractor. The **Contractor** shall present its dispute to the Contract Dispute Resolution Board in the form of a petition, which shall

include (i) a brief written statement of the substance of the dispute, the amount of money, if any, claimed, and the reason(s) the **Contractor** contends the dispute was wrongly decided by the **Commissioner**; (ii) a copy of the written Decision of the **Commissioner**; (iii) copies of all materials submitted by the **Contractor** to the Agency; (iv) a copy of the written decision of the **Comptroller**, if any, and (v) copies of all correspondence with, or written material submitted by the **Contractor**, to the **Comptroller**. The **Contractor** shall concurrently submit four (4) complete sets of the Petition: one set to the City Corporation Counsel (Attn: Commercial and Real Estate Litigation Division) and three (3) sets to the Contract Dispute Resolution Board at OATH's offices with proof of service on the City Corporation Counsel. In addition, the **Contractor** shall submit a copy of the written statement of the substance of the dispute, cited in (i) above, to both the **Commissioner** and the **Comptroller**.

27.7.2 Agency Response. Within thirty (30) Days of its receipt of the Petition by the City Corporation Counsel, the Agency shall respond to the brief written statement of the **Contractor** and make available to the Contract Dispute Resolution Board all material it submitted to the **Commissioner** and **Comptroller**. Three (3) complete copies of the Agency response shall be provided to the Contract Dispute Resolution Board and one to the **Contractor**. Extensions of time for submittal of the Agency response shall be given as necessary upon a showing of good cause or, upon consent of the parties, for an initial period of up to thirty (30) Days.

27.7.3 Further Proceedings. The Contract Dispute Resolution Board shall permit the **Contractor** to present its case by submission of memoranda, briefs, and oral argument. The Contract Dispute Resolution Board shall also permit the Agency to present its case in response to the **Contractor** by submission of memoranda, briefs, and oral argument. If requested by the City Corporation Counsel, the **Comptroller** shall provide reasonable assistance in the preparation of the Agency's case. Neither the **Contractor** nor the Agency may support its case with any documentation or other material that was not considered by the **Comptroller**, unless requested by the Contract Dispute Resolution Board. The Contract Dispute Resolution Board, in its discretion, may seek such technical or other expert advice as it shall deem appropriate and may seek, on its own or upon application of a party, any such additional material from any party as it deems fit. The Contract Dispute Resolution Board, in its discretion, may combine more than one dispute between the parties for concurrent resolution.

27.7.4 Contract Dispute Resolution Board Determination. Within forty-five (45) Days of the conclusion of all written submissions and oral arguments, the Contract Dispute Resolution Board shall render a written decision resolving the dispute. In an unusually complex case, the Contract Dispute Resolution Board may render its decision in a longer period, not to exceed ninety (90) Days, and shall so advise the parties at the commencement of this period. The Contract Dispute Resolution Board's decision must be consistent with the terms of the **Contract**. Decisions of the Contract Dispute Resolution Board shall only resolve matters before the Contract Dispute Resolution Board and shall not have precedential effect with respect to matters not before the Contract Dispute Resolution Board.

27.7.5 Notification of Contract Dispute Resolution Board Decision. The Contract Dispute Resolution Board shall send a copy of its decision to the **Contractor**, the **ACCO**, the Engineer, the **Comptroller**, the City Corporation Counsel, the **CCPO**, and the **PPB**. A decision in favor of the **Contractor** shall be subject to the prompt payment provisions of the **PPB Rules**. The Required Payment Date shall be thirty (30) Days after the date the parties are formally notified of the Contract Dispute Resolution Board's decision.

27.7.6 Finality of Contract Dispute Resolution Board Decision. The Contract Dispute Resolution

Board's decision shall be final and binding on all parties. Any party may seek review of the Contract Dispute Resolution Board's decision solely in the form of a challenge, filed within four (4) months of the date of the Contract Dispute Resolution Board's decision, in a court of competent jurisdiction of the State of New York, County of New York pursuant to Article 78 of the Civil Practice Law and Rules. Such review by the court shall be limited to the question of whether or not the Contract Dispute Resolution Board's decision was made in violation of lawful procedure, was affected by an error of Law, or was arbitrary and capricious or an abuse of discretion. No evidence or information shall be introduced or relied upon in such proceeding that was not presented to the Contract Dispute Resolution Board in accordance with this Article 27.

27.8 Any termination, cancellation, or alleged breach of the Contract prior to or during the pendency of any proceedings pursuant to this Article 27 shall not affect or impair the ability of the Commissioner or Contract Dispute Resolution Board to make a binding and final decision pursuant to this Article 27.

ARTICLE 28. RECORD KEEPING FOR EXTRA OR DISPUTED WORK OR WORK ON A TIME & MATERIALS BASIS

28.1 While the Contractor or any of its Subcontractors is performing Work on a time and material basis or Extra Work on a time and material basis ordered by the Commissioner under Article 25, or where the Contractor believes that it or any of its Subcontractors is performing Extra Work but a final determination by Agency has not been made, or the Contractor or any of its Subcontractors is performing disputed Work (whether on or off the Site), or complying with a determination or order under protest in accordance with Articles 11, 27, and 30, in each such case the Contractor shall furnish the Resident Engineer daily with three (3) copies of written statements signed by the Contractor's representative at the Site showing:

28.1.1 The name, trade, and number of each worker employed on such Work or engaged in complying with such determination or order, the number of hours employed, and the character of the Work each is doing; and

28.1.2 The nature and quantity of any materials, plant and equipment furnished or used in connection with the performance of such Work or compliance with such determination or order, and from whom purchased or rented.

28.2 A copy of such statement will be countersigned by the Resident Engineer, noting thereon any items not agreed to or questioned, and will be returned to the Contractor within two (2) Days after submission.

28.3 The Contractor and its Subcontractors, when required by the Commissioner, or the Comptroller, shall also produce for inspection, at the office of the Contractor or Subcontractor, any and all of its books, bid documents, financial statements, vouchers, records, daily job diaries and reports, and cancelled checks, and any other documents relating to showing the nature and quantity of the labor, materials, plant and equipment actually used in the performance of such Work, or in complying with such determination or order, and the amounts expended therefor, and shall permit the Commissioner and the Comptroller to make such extracts therefrom, or copies thereof, as they or either of them may desire.

28.4 In connection with the examination provided for herein, the Commissioner, upon demand therefor, will produce for inspection by the Contractor such records as the Agency may have with

respect to such **Extra Work** or disputed **Work** performed under protest pursuant to order of the **Commissioner**, except those records and reports which may have been prepared for the purpose of determining the accuracy and validity of the **Contractor's** claim.

28.5 Failure to comply strictly with these requirements shall constitute a waiver of any claim for extra compensation or damages on account of the performance of such **Work** or compliance with such determination or order.

ARTICLE 29. OMITTED WORK

29.1 If any **Contract Work** in a lump sum **Contract**, or if any part of a lump sum item in a unit price, lump sum, or percentage-bid **Contract** is omitted by the **Commissioner** pursuant to Article 33, the **Contract** price, subject to audit by the EAO, shall be reduced by a pro rata portion of the lump sum bid amount based upon the percent of **Work** omitted subject to Article 29.4. For the purpose of determining the pro rata portion of the lump sum bid amount, the bid breakdown submitted in accordance with Article 41 shall be considered, but shall not be the determining factor.

29.2 If the whole of a lump sum item or units of any other item is so omitted by the **Commissioner** in a unit price, lump sum, or percentage-bid **Contract**, then no payment will be made therefor except as provided in Article 29.4.

29.3 For units that have been ordered but are only partially completed, the unit price shall be reduced by a pro rata portion of the unit price bid based upon the percentage of **Work** omitted subject to Article 29.4.

29.4 In the event the **Contractor**, with respect to any omitted **Work**, has purchased any non-cancelable material and/or equipment that is not capable of use except in the performance of this **Contract** and has been specifically fabricated for the sole purpose of this **Contract**, but not yet incorporated into the **Work**, the **Contractor** shall be paid for such material and/or equipment in accordance with Article 64.2.1(b); provided, however, such payment is contingent upon the **Contractor's** delivery of such material and/or equipment in acceptable condition to a location designated by the **City**.

29.5 The **Contractor** agrees to make no claim for damages or for loss of overhead and profit with regard to any omitted **Work**.

ARTICLE 30. NOTICE AND DOCUMENTATION OF COSTS AND DAMAGES; PRODUCTION OF FINANCIAL RECORDS

30.1 If the **Contractor** shall claim to be sustaining damages by reason of any act or omission of the **City** or its agents, it shall submit to the **Commissioner** within forty-five (45) **Days** from the time such damages are first incurred, and every thirty (30) **Days** thereafter 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 strictly comply with the foregoing provisions, such claims shall be deemed waived and no right to recover on such claims shall exist. Damages that the **Contractor** may claim in any action or dispute resolution procedure arising under or by reason of this **Contract** shall not be different from or in excess of the statements and documentation made pursuant to this Article 30.

30.2 In addition to the foregoing statements, the **Contractor** shall, upon notice from the **Commissioner**, produce for examination at the **Contractor's** office, by the **Engineer, Architect or Project Manager**, all of its books of account, bills, invoices, payrolls, subcontracts, time books, daily reports, bank deposit books, bank statements, check books, and cancelled checks, showing all of its acts and transactions in connection with or relating to or arising by reason of this **Contract**, and submit itself and persons in its employment, for examination under oath by any person designated by the **Commissioner** or **Comptroller** to investigate claims made or disputes against the **City** under this **Contract**. At such examination, a duly authorized representative of the **Contractor** may be present.

30.3 In addition to the statements required under Article 28 and this Article 30, the **Contractor** and/or its **Subcontractor** shall, within thirty (30) **Days** upon notice from the **Commissioner** or **Comptroller**, produce for examination at the **Contractor's** and/or **Subcontractor's** office, by a representative of either the **Commissioner** or **Comptroller**, all of its books of account, bid documents, financial statements, accountant workpapers, bills, invoices, payrolls, subcontracts, time books, daily reports, bank deposit books, bank statements, check books, and cancelled checks, showing all of its acts and transactions in connection with or relating to or arising by reason of this **Contract**. Further, the **Contractor** and/or its **Subcontractor** shall submit any person in its employment, for examination under oath by any person designated by the **Commissioner** or **Comptroller** to investigate claims made or disputes against the **City** under this **Contract**. At such examination, a duly authorized representative of the **Contractor** may be present.

30.4 Unless the information and examination required under Article 30.3 is provided by the **Contractor** and/or its **Subcontractor** upon thirty (30) **Days'** notice from the **Commissioner** or **Comptroller**, or upon the **Commissioner's** or **Comptroller's** written authorization to extend the time to comply, the **City** shall be released from all claims arising under, relating to or by reason of this **Contract**, except for sums certified by the **Commissioner** to be due under the provisions of this **Contract**. It is further stipulated and agreed that no person has the power to waive any of the foregoing provisions and that in any action or dispute resolution procedure against the **City** to recover any sum in excess of the sums certified by the **Commissioner** to be due under or by reason of this **Contract**, the **Contractor** must allege in its complaint and prove, at trial or during such dispute resolution procedure, compliance with the provisions of this Article 30.

30.5 In addition, after the commencement of any action or dispute resolution procedure by the **Contractor** arising under or by reason of this **Contract**, the **City** shall have the right to require the **Contractor** to produce for examination under oath, up until the trial of the action or hearing before the Contract Dispute Resolution Board, the books and documents described in Article 30.3 and submit itself and all persons in its employ for examination under oath. If this Article 30 is not complied with as required, then the **Contractor** hereby consents to the dismissal of the action or dispute resolution procedure.

CHAPTER VII **POWERS OF THE RESIDENT ENGINEER,** **THE ENGINEER OR ARCHITECT AND THE COMMISSIONER**

ARTICLE 31. THE RESIDENT ENGINEER

31.1 The **Resident Engineer** shall have the power to inspect, supervise, and control the performance of the **Work**, subject to review by the **Commissioner**. The **Resident Engineer** shall not, however, have the power to issue an **Extra Work** order, except as specifically designated in writing by the **Commissioner**.

ARTICLE 32. THE ENGINEER OR ARCHITECT OR PROJECT MANAGER

32.1 The **Engineer or Architect or Project Manager**, in addition to those matters elsewhere herein delegated to the **Engineer** and expressly made subject to his/her determination, direction or approval, shall have the power, subject to review by the **Commissioner**:

32.1.1 To determine the amount, quality, and location of the **Work** to be paid for hereunder; and

32.1.2 To determine all questions in relation to the **Work**, to interpret the **Contract Drawings, Specifications, and Addenda**, and to resolve all patent inconsistencies or ambiguities therein; and

32.1.3 To determine how the **Work** of this **Contract** shall be coordinated with **Work** of **Other Contractors** engaged simultaneously on this **Project**, including the power to suspend any part of the **Work**, but not the whole thereof; and

32.1.4 To make minor changes in the **Work** as he/she deems necessary, provided such changes do not result in a net change in the cost to the **City** or to the **Contractor** of the **Work** to be done under the **Contract**; and

32.1.5 To amplify the **Contract Drawings**, add explanatory information and furnish additional **Specifications** and drawings, consistent with this **Contract**.

32.2 The foregoing enumeration shall not imply any limitation upon the power of the **Engineer or Architect or Project Manager**, for it is the intent of this **Contract** that all of the **Work** shall generally be subject to his/her determination, direction, and approval, except where the determination, direction or approval of someone other than the **Engineer or Architect or Project Manager** is expressly called for herein.

32.3 The **Engineer or Architect or Project Manager** shall not, however, have the power to issue an **Extra Work** order, except as specifically designated in writing by the **Commissioner**.

ARTICLE 33. THE COMMISSIONER

33.1 The **Commissioner**, in addition to those matters elsewhere herein expressly made subject to his/her determination, direction or approval, shall have the power:

33.1.1 To review and make determinations on any and all questions in relation to this **Contract** and its performance; and

33.1.2 To modify or change this **Contract** so as to require the performance of **Extra Work** (subject, however, to the limitations specified in Article 25) or the omission of **Contract Work**; and

33.1.3 To suspend the whole or any part of the **Work** whenever in his/her judgment such suspension is required:

33.1.3(a) In the interest of the **City** generally; or

33.1.3(b) To coordinate the **Work** of the various contractors engaged on this **Project** pursuant to the provisions of Article 12; or

33.1.3(c) To expedite the completion of the entire **Project** even though the completion of this particular **Contract** may thereby be delayed.

ARTICLE 34. NO ESTOPPEL

34.1 Neither the **City** nor any **Agency**, official, agent or employee thereof, shall be bound, precluded or estopped by any determination, decision, approval, order, letter, payment or certificate made or given under or in connection with this **Contract** by the **City**, the **Commissioner**, the **Engineer**, the **Resident Engineer**, or any other official, agent or employee of the **City**, either before or after the final completion and acceptance of the **Work** and payment therefor:

34.1.1 From showing the true and correct classification, amount, quality or character of the **Work** actually done; or that any such determination, decision, order, letter, payment or certificate was untrue, incorrect or improperly made in any particular, or that the **Work**, or any part thereof, does not in fact conform to the requirements of this **Contract**; and

34.1.2 From demanding and recovering from the **Contractor** any overpayment made to it, or such damages as the **City** may sustain by reason of the **Contractor's** failure to perform each and every part of its **Contract**.

CHAPTER VIII LABOR PROVISIONS

ARTICLE 35. EMPLOYEES

35.1 The **Contractor** and its **Subcontractors** shall not employ on the **Work**:

35.1.1 Anyone who is not competent, faithful and skilled in the **Work** for which he/she shall be employed; and whenever the **Commissioner** shall inform the **Contractor**, in writing, that any employee is, in his/her opinion, incompetent, unfaithful or disobedient, that employee shall be discharged from the **Work** forthwith, and shall not again be employed upon it; or

35.1.2 Any labor, materials or means whose employment, or utilization during the course of this **Contract**, may tend to or in any way cause or result in strikes, work stoppages, delays, suspension of **Work** or similar troubles by workers employed by the **Contractor** or its **Subcontractors**, or by any of the trades working in or about the buildings and premises where **Work** is being performed under this **Contract**, or by **Other Contractors** or their **Subcontractors** pursuant to other contracts, or on any other building or premises owned or operated by the **City**, its **Agencies**, departments, boards or authorities. Any violation by the **Contractor** of this requirement may, upon certification of the **Commissioner**, be considered as proper and sufficient cause for declaring the **Contractor** to be in default, and for the **City** to take action against it as set forth in Chapter X of this **Contract**, or such other article of this **Contract** as the **Commissioner** may deem proper; or

35.1.3 In accordance with Section 220.3-e of the Labor Law of the State of New York (hereinafter "Labor Law"), the **Contractor** and its **Subcontractors** shall not employ on the **Work** any apprentice, unless he/she is a registered individual, under a bona fide program

registered with the New York State Department of Labor. The allowable ratio of apprentices to journey-level workers in any craft classification shall not be greater than the ratio permitted to the **Contractor** as to its work force on any job under the registered program. Any employee listed on a payroll at an apprentice wage rate, who is not registered as above, shall be paid the wage rate determined by the **Comptroller of the City** for the classification of **Work** actually performed. The **Contractor** or **Subcontractor** will be required to furnish written evidence of the registration of its program and apprentices as well as all the appropriate ratios and wage rates, for the area of the construction prior to using any apprentices on the **Contract Work**.

35.2 If the total cost of the **Work** under this **Contract** is at least two hundred fifty thousand (\$250,000) dollars, all laborers, workers, and mechanics employed in the performance of the **Contract** on the public work site, either by the **Contractor**, **Subcontractor** or other person doing or contracting to do the whole or a part of the **Work** contemplated by the **Contract**, shall be certified prior to performing any **Work** as having successfully completed a course in construction safety and health approved by the United States Department of Labor's Occupational Safety and Health Administration that is at least ten (10) hours in duration.

35.3 In accordance with Local Law Nos. 30-2012 and 33-2012, codified at sections 6-132 and 12-113 of the Administrative Code, respectively,

35.3.1 The **Contractor** shall not take an adverse personnel action with respect to an officer or employee in retaliation for such officer or employee making a report of information concerning conduct which such officer or employee knows or reasonably believes to involve corruption, criminal activity, conflict of interest, gross mismanagement or abuse of authority by any officer or employee relating to this **Contract** to (a) the Commissioner of the Department of Investigation, (b) a member of the New York City Council, the Public Advocate, or the **Comptroller**, or (c) the **CCPO**, **ACCO**, **Agency head**, or **Commissioner**.

35.3.2 If any of the **Contractor's** officers or employees believes that he or she has been the subject of an adverse personnel action in violation of Article 35.3.1, he or she shall be entitled to bring a cause of action against the **Contractor** to recover all relief necessary to make him or her whole. Such relief may include but is not limited to: (a) an injunction to restrain continued retaliation, (b) reinstatement to the position such employee would have had but for the retaliation or to an equivalent position, (c) reinstatement of full fringe benefits and seniority rights, (d) payment of two times back pay, plus interest, and (e) compensation for any special damages sustained as a result of the retaliation, including litigation costs and reasonable attorney's fees.

35.3.3 The **Contractor** shall post a notice provided by the **City** in a prominent and accessible place on any site where work pursuant to the **Contract** is performed that contains information about:

35.3.3(a) how its employees can report to the New York City Department of Investigation allegations of fraud, false claims, criminality or corruption arising out of or in connection with the **Contract**; and

35.3.3(b) the rights and remedies afforded to its employees under Administrative Code sections 7-805 (the New York City False Claims Act) and 12-113 (the Whistleblower Protection Expansion Act) for lawful acts taken in connection with the reporting of allegations of fraud, false claims, criminality or corruption in connection with the **Contract**.

35.3.4 For the purposes of this Article 35.3, "adverse personnel action" includes dismissal, demotion, suspension, disciplinary action, negative performance evaluation, any action resulting in loss of staff, office space, equipment or other benefit, failure to appoint, failure to promote, or any transfer or assignment or failure to transfer or assign against the wishes of the affected officer or employee.

35.3.5 This Article 35.3 is applicable to all of the **Contractor's Subcontractors** having subcontracts with a value in excess of \$100,000; accordingly, the **Contractor** shall include this rider in all subcontracts with a value a value in excess of \$100,000.

35.4 Article 35.3 is not applicable to this **Contract** if it is valued at \$100,000 or less. Articles 35.3.1, 35.3.2, 35.3.4, and 35.3.5 are not applicable to this **Contract** if it was solicited pursuant to a finding of an emergency.

ARTICLE 36. NO DISCRIMINATION

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

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

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

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

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

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

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

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

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

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

36.2.4 Any person, or the employee, manager or owner of or officer of such firm or corporation who shall violate any of the provisions of this Article 36.2 shall, upon conviction thereof, be punished by a fine of not more than one hundred (\$100.00) dollars or by imprisonment for not more than thirty (30) **Days**, or both.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

ARTICLE 37. LABOR LAW REQUIREMENTS

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

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

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

37.2.2 In situations in which there are not sufficient laborers, workers, and mechanics who may be employed to carry on expeditiously the **Work** contemplated by this **Contract** as a result of such restrictions upon the number of hours and **Days** of labor, and the immediate commencement or prosecution or completion without undue delay of the **Work** is necessary for the preservation of the **Site** and/or for the protection of the life and limb of the persons using the same, such laborers, workers, and mechanics shall be permitted or required to

work more than eight (8) hours in any one (1) Day; or five (5) Days in any one (1) week; provided, however, that upon application of any Contractor, the Commissioner shall have first certified to the Commissioner of Labor of the State of New York (hereinafter "Commissioner of Labor") that such public Work is of an important nature and that a delay in carrying it to completion would result in serious disadvantage to the public; and provided, further, that such Commissioner of Labor shall have determined that such an emergency does in fact exist as provided in Labor Law Section 220.2.

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

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

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

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

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

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

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

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

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

37.4.2 For any breach or violation of either working conditions (Article 37.3) or minimum wages (Article 37.2.6) provisions, the party responsible therefor shall be liable to the City for liquidated damages, which may be withheld from any amounts due on any contracts with the City of such party responsible, or may be recovered in actions brought by the City Corporation Counsel in the name of the City, in addition to damages for any other breach of this Contract, for a sum equal to the amount of any underpayment of wages due to any employee engaged in the performance of this Contract. In addition, the Commissioner shall have the right to cancel contracts and enter into other contracts for the completion of the original contract, with or without public letting, and the original Contractor shall be liable for any additional cost. All sums withheld or recovered as deductions, rebates, refunds, or underpayment of wages hereunder, shall be held in a special deposit account and shall be paid without interest, on order of the Comptroller, directly to the employees who have been paid less than minimum rates of pay as set forth herein and on whose account such sums were withheld or recovered, provided that no claims by employees for such payments shall be entertained unless made within two (2) years from the date of actual notice to the Contractor of the withholding or recovery of such sums by the City.

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

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

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

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

37.4.4(c) Labor Law Section 220, as amended, provides that the Contractor or Subcontractor found to have violated this Article 37.4 may be directed to make payment of wages or supplements including interest found to be due, and the Contractor or Subcontractor may be directed to make payment of a further sum as

a civil penalty in an amount not exceeding twenty-five (25%) percent of the total amount found to be due.

37.5 The **Contractor** and its **Subcontractors** shall within ten (10) **Days** after mailing of a Notice of Award or written order, post in prominent and conspicuous places in each and every plant, factory, building, and structure where employees of the **Contractor** and its **Subcontractors** engaged in the performance of this **Contract** are employed, notices furnished by the **City**, in relation to prevailing wages and supplements, minimum wages, and other stipulations contained in Sections 220 and 220-h of the Labor Law, and the **Contractor** and its **Subcontractors** shall continue to keep such notices posted in such prominent and conspicuous places until **Final Acceptance** of the supplies, materials, equipment, or **Work**, labor, or services required to be furnished or rendered under this **Contract**.

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

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

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

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

Article 37.6.3, which signed statement shall be maintained with the payroll records required by this **Contract**; and

37.6.3(a) The **Contractor** and each **Subcontractor** shall notify each worker, laborer or mechanic employed under this **Contract** in writing of the prevailing rate of wages for their particular job classification. Such notification shall be given to every worker, laborer, and mechanic on their first pay stub and with every pay stub thereafter; and

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

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

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

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

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

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

37.8 At the time the **Contractor** makes application for each partial payment and for final payment, the **Contractor** shall submit to the **Commissioner** a written payroll certification, in the form provided by this **Contract**, of compliance with the prevailing wage, minimum wage, and other provisions and stipulations required by Labor Law Section 220 and of compliance with the training requirements of

Labor Law Section 220-h set forth in Article 35.2. This certification of compliance shall be a condition precedent to payment and no payment shall be made to the **Contractor** unless and until each such certification shall have been submitted to and received by the **Commissioner**.

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

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

ARTICLE 38. PAYROLL REPORTS

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

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

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

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

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

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

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

ARTICLE 39. DUST HAZARDS

39.1 Should a harmful dust hazard be created in performing the **Work** of this **Contract**, for the elimination of which appliances or methods have been approved by the Board of Standards and Appeals of the City of New York, such appliances and methods shall be installed, maintained, and effectively operated during the continuance of such harmful dust hazard. Failure to comply with this provision after notice shall make this **Contract** voidable at the sole discretion of the **City**.

CHAPTER IX PARTIAL AND FINAL PAYMENTS

ARTICLE 40. CONTRACT PRICE

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

ARTICLE 41. BID BREAKDOWN ON LUMP SUM

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

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

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

ARTICLE 42. PARTIAL PAYMENTS

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

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

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

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

ARTICLE 43. PROMPT PAYMENT

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

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

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

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

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

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

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

ARTICLE 44. SUBSTANTIAL COMPLETION PAYMENT

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

44.1.1 A final verified statement of any pending Article 27 disputes in accordance with the **PPB Rules** and this **Contract** and any and all alleged claims against the **City**, in any way connected with or arising out of this **Contract** (including those as to which details may have been furnished pursuant to Articles 11, 27, 28, and 30) setting forth with respect to each

such claim the total amount thereof, the various items of labor and materials included therein, and the alleged value of each item; and if the alleged claim be one for delay, the alleged cause of each such delay, the period or periods of time, giving the dates when the **Contractor** claims the performance of the **Work** or a particular part thereof was delayed, and an itemized statement and breakdown of the amount claimed for each such delay.

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

44.1.2 A Final Approved Punch List.

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

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

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

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

ARTICLE 45. FINAL PAYMENT

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

payment of any balance claimed. A verified statement similar to that required in connection with applications for partial payments shall also be submitted to the **Commissioner**.

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

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

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

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

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

ARTICLE 46. ACCEPTANCE OF FINAL PAYMENT

46.1 The acceptance by the **Contractor**, or by anyone claiming by or through it, of the final payment, whether such payment be made pursuant to any judgment of any court, or otherwise, shall constitute and operate as a release of the **City** from any and all claims of and liability to the **Contractor** for anything heretofore done or furnished for the **Contractor** relating to or arising out of this **Contract** and the **Work** done hereunder, and for any prior act, neglect or default on the part of the **City** or any of its officials, agents or employees, excepting only a claim against the **City** for the amounts deducted or retained in accordance with the terms and provisions of this **Contract** or by **Law**, and excepting any

claims, not otherwise waived, or any pending dispute resolution procedures which are contained in the verified statement filed with the **Contractor's** substantial and final requisitions pursuant to Articles 44 and 45.

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

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

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

ARTICLE 47. APPROVAL BY PUBLIC DESIGN COMMISSION

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

CHAPTER X CONTRACTOR'S DEFAULT

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

ARTICLE 49. EXERCISE OF THE RIGHT TO DECLARE DEFAULT

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

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

ARTICLE 50. QUITTING THE SITE

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

ARTICLE 51. COMPLETION OF THE WORK

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

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

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

ARTICLE 52. PARTIAL DEFAULT

52.1 In case the **Commissioner** shall declare the **Contractor** in default as to a part of the **Work** only, the **Contractor** shall discontinue such part, shall continue performing the remainder of the **Work** in strict conformity with the terms of this **Contract**, and shall in no way hinder or interfere with any **Other**

Contractor(s) or persons whom the Commissioner may engage to complete the Work as to which the Contractor was declared in default.

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

ARTICLE 53. PERFORMANCE OF UNCOMPLETED WORK

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

ARTICLE 54. OTHER REMEDIES

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

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

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

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

**CHAPTER XI
MISCELLANEOUS PROVISIONS**

ARTICLE 55. CONTRACTOR'S WARRANTIES

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

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

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

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

ARTICLE 56. CLAIMS AND ACTIONS THEREON

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

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

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

56.2.2 Any claims for monies deducted, retained or withheld under the provisions of this **Contract** shall be asserted within six (6) months after the date when such monies otherwise become due and payable hereunder; and

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

ARTICLE 57. INFRINGEMENT

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

ARTICLE 58. NO CLAIM AGAINST OFFICIALS, AGENTS OR EMPLOYEES

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

ARTICLE 59. SERVICE OF NOTICES

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

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

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

ARTICLE 60. UNLAWFUL PROVISIONS DEEMED STRICKEN FROM CONTRACT

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

ARTICLE 61. ALL LEGAL PROVISIONS DEEMED INCLUDED

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

ARTICLE 62. TAX EXEMPTION

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

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

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

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

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

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

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

purchase agreements provide separate prices for tangible personal property and all other services and matters. Such separation shall actually be followed in practice, including the separation of payments for tangible personal property from the payments for other **Work** and labor and other things to be provided.

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

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

ARTICLE 63. INVESTIGATION(S) CLAUSE

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

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

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

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

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

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

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

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

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

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

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

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

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

63.8 Definitions:

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

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

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

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

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

ARTICLE 64. TERMINATION BY THE CITY

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

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

64.1.2 Take such action as may be necessary for the protection and preservation of the **City's** materials and property;

64.1.3 Cancel all cancelable orders for material and equipment;

64.1.4 Assign to the **City** and deliver to the **Site** or another location designated by the **Commissioner**, any non-cancelable orders for material and equipment that is not capable of use except in the performance of this **Contract** and has been specifically fabricated for the sole purpose of this **Contract** and not incorporated in the **Work**;

64.1.5 Take no action which will increase the amounts payable by the **City** under this **Contract**.

64.2 In the event of termination by the **City** pursuant to this Article 64, payment to the **Contractor** shall be in accordance with Articles 64.2.1, 64.2.2 or 64.2.3, to the extent that each respective article applies.

64.2.1 Lump Sum Contracts or Items: On all lump sum **Contracts**, or on lump sum items in a **Contract**, the **City** will pay the **Contractor** the sum of the amounts described in Articles 64.2.1(a) and 64.2.1(b), less all payments previously made pursuant to this **Contract**. On lump sum **Contracts** only, the **City** will also pay the **Contractor** an additional sum as provided in Article 64.2.1(c).

64.2.1(a) For **Work** completed prior to the notice of termination, the **Contractor** shall be paid a pro rata portion of the lump sum bid amount, plus approved change orders, based upon the percent completion of the **Work**, as determined by the **Commissioner**. For the purpose of determining the pro rata portion of the lump sum bid amount to which the **Contractor** is entitled, the bid breakdown submitted in accordance with Article 41 shall be considered, but shall not be dispositive. The **Commissioner's** determination hereunder shall be final, binding, and conclusive.

64.2.1(b) For non-cancelable material and equipment that is not capable of use except in the performance of this **Contract** and has been specifically fabricated for the sole purpose of this **Contract**, but not yet incorporated in the **Work**, the **Contractor** shall be paid the lesser of the following, less salvage value:

64.2.1(b)(i) The Direct Cost, as defined in Article 64.2.4; or

64.2.1(b)(ii) The fair and reasonable value, if less than Direct Cost, of such material and equipment, plus necessary and reasonable delivery costs.

64.2.1(b)(iii) In addition, the **Contractor** shall be paid five (5%) percent of the amount described in Article 64.2.1(b)(i) or Article 64.2.1(b)(ii), whichever applies.

64.2.1(c) Except as otherwise provided in Article 64.2.1(d), on all lump sum **Contracts**, the **Contractor** shall be paid the percentage indicated below applied to the difference between the total lump sum bid amount and the total of all payments made prior to the notice of termination plus all payments allowed pursuant to Articles 64.2.1(a) and 64.2.1(b):

64.2.1(c)(i) Five (5%) percent of the first five million (\$5,000,000) dollars; and

64.2.1(c)(ii) Three (3%) percent of any amount between five million (\$5,000,000) dollars and fifteen million (\$15,000,000) dollars; plus

64.2.1(c)(iii) One (1%) percent of any amount over fifteen million (\$15,000,000) dollars.

64.2.1(d) In the event the City terminates a lump sum **Contract** pursuant to this Article 64 within ninety (90) Days after registration of the **Contract** with the **Comptroller**, the **Contractor** shall be paid one (1%) percent of the difference between the lump sum bid amount and the total of all payments made pursuant to this Article 64.2.

64.2.2 Unit Price Contracts or Items: On all unit price **Contracts**, or on unit price items in a **Contract**, the City will pay the **Contractor** the sum of the amounts described in Articles 64.2.2(a) and 64.2.2(b), less all payments previously made pursuant to this **Contract**:

64.2.2(a) For all completed units, the unit price stated in the **Contract**, and

64.2.2(b) For units that have been ordered but are only partially completed, the **Contractor** will be paid:

64.2.2(b)(i) A pro rata portion of the unit price stated in the **Contract** based upon the percent completion of the unit and

64.2.2(b)(ii) For non-cancelable material and equipment, payment will be made pursuant to Article 64.2.1(b).

64.2.3 Time and Materials Contracts or Items Based on Time and Material Records: On all **Contracts** or items in a **Contract** where payment for the **Work** is based on time and

material records; the **Contractor** shall be paid in accordance with Article 26, less all payments previously made pursuant to this **Contract**.

64.2.4 Direct Costs: Direct Costs as used in this Article 64.2 shall mean:

64.2.4(a) The actual purchase price of material and equipment, plus necessary and reasonable delivery costs,

64.2.4(b) The actual cost of labor involved in construction and installation at the Site, and

64.2.4(c) The actual cost of necessary bonds and insurance purchased pursuant to requirements of this **Contract** less any amounts that have been or should be refunded by the **Contractor's** sureties or insurance carriers.

64.2.4(d) Direct Costs shall not include overhead.

64.3 In no event shall any payments under this Article 64 exceed the **Contract** price for such items.

64.4 All payments pursuant to Article 64 shall be in the nature of liquidated damages and shall be accepted by the **Contractor** in full satisfaction of all claims against the City.

64.5 The City may deduct or set off against any sums due and payable pursuant to this Article 64, any deductions authorized by this **Contract** or by Law (including but not limited to liquidated damages) and any claims it may have against the **Contractor**. The City's exercise of the right to terminate the **Contract** pursuant to this Article 64 shall not impair or otherwise effect the City's right to assert any claims it may have against the **Contractor** in a plenary action.

64.6 Where the **Work** covered by the **Contract** has been substantially completed, as determined in writing by the **Commissioner**, termination of the **Work** shall be handled as an omission of **Work** pursuant to Articles 29 and 33, in which case a change order will be issued to reflect an appropriate reduction in the **Contract** sum, or if the amount is determined after final payment, such amount shall be paid by the **Contractor**.

ARTICLE 65. CHOICE OF LAW, CONSENT TO JURISDICTION AND VENUE

65.1 This **Contract** shall be deemed to be executed in the City regardless of the domicile of the **Contractor**, and shall be governed by and construed in accordance with the Laws of the State of New York and the Laws of the United States, where applicable.

65.2 The parties agree that any and all claims asserted against the City arising under this **Contract** or related thereto shall be heard and determined in the courts of the State of New York ("New York State Courts") located in the City and County of New York. To effect this **Contract** and intent, the **Contractor** agrees:

65.2.1 If the City initiates any action against the **Contractor** in Federal court or in a New York State Court, service of process may be made on the **Contractor** either in person, wherever such **Contractor** may be found, or by registered mail addressed to the **Contractor** at its address as set forth in this **Contract**, or to such other address as the **Contractor** may provide to the City in writing; and

65.2.2 With respect to any action between the **City** and the **Contractor** in a New York State Court, the **Contractor** hereby expressly waives and relinquishes any rights it might otherwise have:

65.2.2(a) To move to dismiss on grounds of forum non conveniens;

65.2.2(b) To remove to Federal Court; and

65.2.2(c) To move for a change of venue to a New York State Court outside New York County.

65.2.3 With respect to any action brought by the **City** against the **Contractor** in a Federal Court located in the **City**, the **Contractor** expressly waives and relinquishes any right it might otherwise have to move to transfer the action to a Federal Court outside the **City**.

65.2.4 If the **Contractor** commences any action against the **City** in a court located other than in the **City** and County of New York, upon request of the **City**, the **Contractor** shall either consent to a transfer of the action to a New York State Court of competent jurisdiction located in the **City** and County of New York or, if the Court where the action is initially brought will not or cannot transfer the action, the **Contractor** shall consent to dismiss such action without prejudice and may thereafter reinstate the action in a New York State Court of competent jurisdiction in New York County.

65.3 If any provision(s) of this Article 65 is held unenforceable for any reason, each and all other provision(s) shall nevertheless remain in full force and effect.

ARTICLE 66. PARTICIPATION IN AN INTERNATIONAL BOYCOTT

66.1 The **Contractor** agrees that neither the **Contractor** nor any substantially owned affiliated company is participating or shall participate in an international boycott in violation of the provisions of the Federal Export Administration Act of 1979, as amended, or the regulations of the United States Department of Commerce (Commerce Department) promulgated thereunder.

66.2 Upon the final determination by the Commerce Department or any other agency of the United States as to, or conviction of the **Contractor** or a substantially-owned affiliated company thereof for participation in an international boycott in violation of the provisions of the Export Administration Act of 1979, as amended, or the regulations promulgated thereunder, the **Comptroller** may, at his/her option, render forfeit and void this **Contract**.

66.3 The **Contractor** shall comply in all respects, with the provisions of Section 6-114 of the Administrative Code and the rules and regulations issued by the **Comptroller** thereunder.

ARTICLE 67. LOCALLY BASED ENTERPRISE PROGRAM

67.1 This **Contract** is subject to the requirements of Section 6-108.1 of the Administrative Code and regulations promulgated thereunder. No construction contract shall be awarded unless and until these requirements have been complied with in their entirety; however, compliance with this Article 67 is not required if the Agency sets Subcontractor Participation Goals for Minority- and Women-Owned Business Enterprises (M/WBEs).

67.2 Unless specifically waived by the **Commissioner** with the approval of the Division of Economic and Financial Opportunity of the City Department of Business Services, if any portion of the **Contract** is subcontracted, not less than ten (10%) percent of the total dollar amount of the **Contract** shall be awarded to locally based enterprises (LBEs); except that where less than ten (10%) percent of the total dollar amount of the **Contract** is subcontracted, such lesser percentage shall be so awarded.

67.3 The **Contractor** shall not require performance and payment bonds from LBE **Subcontractors**.

67.4 If the **Contractor** has indicated prior to award that no **Work** will be subcontracted, no **Work** shall be subcontracted without the prior approval of the **Commissioner**, which shall be granted only if the **Contractor** makes a good faith effort beginning at least six (6) weeks before the **Work** is to be performed to obtain LBE **Subcontractors** to perform the **Work**.

67.5 If the **Contractor** has not identified sufficient LBE **Subcontractors** prior to award, it shall sign a letter of compliance stating that it complies with Section 6-108.1 of the Administrative Code, recognizes that achieving the LBE requirement is a condition of its **Contract**, and shall submit documentation demonstrating its good faith efforts to obtain LBEs. After award, the **Contractor** shall begin to solicit LBE's to perform subcontracted **Work** at least six (6) weeks before the date such **Work** is to be performed and shall demonstrate that a good faith effort has been made to obtain LBEs on each subcontract until it meets the required percentage.

67.6 Failure of the **Contractor** to comply with the requirements of Section 6-108.1 of the Administrative Code and the regulations promulgated thereunder shall constitute a material breach of this **Contract**. Remedy for such breach may include the imposition of any or all of the following sanctions:

67.6.1 Reducing the **Contractor's** compensation by an amount equal to the dollar value of the percentage of the LBE subcontracting requirement not complied with;

67.6.2 Declaring the **Contractor** in default;

67.6.3 If the **Contractor** is an LBE, de-certifying and declaring the **Contractor** ineligible to participate in the LBE program for a period of up to three (3) years.

ARTICLE 68. ANTITRUST

68.1 The **Contractor** hereby assigns, sells, and transfers to the City all right, title, and interest in and to any claims and causes of action arising under the antitrust **Laws** of New York State or of the United States relating to the particular goods or services purchased or procured by the City under this **Contract**.

ARTICLE 69. MacBRIDE PRINCIPLES PROVISIONS

69.1 Notice To All Prospective **Contractors**:

69.1.1 Local Law No. 34 of 1991 became effective on September 10, 1991 and added Section 6-115.1 of the Administrative Code. The local Law provides for certain restrictions on **City Contracts** to express the opposition of the people of the City to employment discrimination practices in Northern Ireland to promote freedom of work-place opportunity.

69.1.2 Pursuant to Section 6-115.1, prospective **Contractors** for **Contracts** to provide goods or services involving an expenditure of an amount greater than ten thousand

(\$10,000.) dollars, or for construction involving an amount greater than fifteen thousand (\$15,000.) dollars, are asked to sign a rider in which they covenant and represent, as a material condition of their **Contract**, that any business operations in Northern Ireland conducted by the **Contractor** and any individual or legal entity in which the **Contractor** holds a ten (10%) percent or greater ownership interest in the **Contractor** will be conducted in accordance with the MacBride Principles of nondiscrimination in employment.

69.1.3 Prospective **Contractors** are not required to agree to these conditions. However, in the case of **Contracts** let by competitive sealed bidding, whenever the lowest responsible bidder has not agreed to stipulate to the conditions set forth in this notice and another bidder who has agreed to stipulate to such conditions has submitted a bid within five (5%) percent of the lowest responsible bid for a **Contract** to supply goods, services or contraction of comparable quality, the **Agency** shall refer such bids to the Mayor, the Speaker or other officials, as appropriate, who may determine, in accordance with applicable **Law**, that it is in the best interest of the **City** that the **Contract** be awarded to other than the lowest responsible pursuant to Section 313(b)(2) of the **City Charter**.

69.1.4 In the case of **Contracts** let by other than competitive sealed bidding, if a prospective **Contractor** does not agree to these conditions, no **Agency**, elected official or the **City Council** shall award the **Contract** to that bidder unless the **Agency** seeking to use the goods, services or construction certifies in writing that the **Contract** is necessary for the **Agency** to perform its functions and there is no other responsible **Contractor** who will supply goods, services or construction of comparable quality at a comparable price.

69.2 In accordance with Section 6-115.1 of the Administrative Code, the **Contractor** stipulates that such **Contractor** and any individual or legal entity in which the **Contractor** holds a ten (10%) percent or greater ownership interest in the **Contractor** either:

69.2.1 Have no business operations in Northern Ireland, or

69.2.2 Shall take lawful steps in good faith to conduct any business operations they have in Northern Ireland in accordance with the MacBride Principles, and shall permit independent monitoring of their compliance with such principles.

69.3 For purposes of this Article, the following terms shall have the following meanings:

69.3.1 "MacBride Principles" shall mean those principles relating to nondiscrimination in employment and freedom of work-place opportunity which require employers doing business in Northern Ireland to:

69.3.1(a) increase the representation of individuals from under-represented religious groups in the workforce, including managerial, supervisory, administrative, clerical and technical jobs;

69.3.1(b) take steps to promote adequate security for the protection of employees from under-represented religious groups both at the work-place and while traveling to and from **Work**;

69.3.1(c) ban provocative religious or political emblems from the workplace;

69.3.1(d) publicly advertise all job openings and make special recruitment efforts to attract applicants from under-represented religious groups;

69.3.1(e) establish layoff, recall, and termination procedures which do not in practice favor a particular religious group;

69.3.1(f) abolish all job reservations, apprenticeship restrictions and different employment criteria which discriminate on the basis of religion;

69.3.1(g) develop training programs that will prepare substantial numbers of current employees from under-represented religious groups for skilled jobs, including the expansion of existing programs and the creation of new programs to train, upgrade, and improve the skills of workers from under-represented religious groups;

69.3.1(h) establish procedures to assess, identify, and actively recruit employees from under-represented religious groups with potential for further advancement; and

69.3.1(i) appoint a senior management staff member to oversee affirmative action efforts and develop a timetable to ensure their full implementation.

69.4 The **Contractor** agrees that the covenants and representations in Article 69.2 are material conditions to this **Contract**. In the event the **Agency** receives information that the **Contractor** who made the stipulation required by this Article 69 is in violation thereof, the **Agency** shall review such information and give the **Contractor** an opportunity to respond. If the **Agency** finds that a violation has occurred, the **Agency** shall have the right to declare the **Contractor** in default and/or terminate this **Contract** for cause and procure supplies, services or **Work** from another source in the manner the **Agency** deems proper. In the event of such termination, the **Contractor** shall pay to the **Agency**, or the **Agency** in its sole discretion may withhold from any amounts otherwise payable to the **Contractor**, the difference between the **Contract** price for the uncompleted portion of this **Contract** and the cost to the **Agency** of completing performance of this **Contract** either itself or by engaging another **Contractor** or **Contractors**. In the case of a requirement **Contract**, the **Contractor** shall be liable for such difference in price for the entire amount of supplies required by the **Agency** for the uncompleted term of **Contractor's** **Contract**. In the case of a construction **Contract**, the **Agency** shall also have the right to hold the **Contractor** in partial or total default in accordance with the default provisions of this **Contract**, and/or may seek debarment or suspension of the **Contractor**. The rights and remedies of the **Agency** hereunder shall be in addition to, and not in lieu of, any rights and remedies the **Agency** has pursuant to this **Contract** or by operation of Law.

ARTICLE 70. ELECTRONIC FILING/NYC DEVELOPMENT HUB

70.1 The **Contractor** shall electronically file all alteration type-2 and alteration type-3 applications via the New York City Development Hub Web site, except applications for the following types of minor alterations: enlargements, curb cuts, legalizations, fire alarms, builders pavement plans, and jobs filed on Landmark Preservation Commission calendared properties. All such filings must be professionally certified. Information about electronic filing via the New York City Development Hub is available on the City Department of Buildings Web site at www.nyc.gov/buildings.

ARTICLE 71. PROHIBITION OF TROPICAL HARDWOODS

71.1 Tropical hardwoods, as defined in Section 165 of the New York State Finance Law (Finance Law), shall not be utilized in the performance of this **Contract** except as expressly permitted by Section 165 of the Finance Law.

ARTICLE 72. CONFLICTS OF INTEREST

72.1 Section 2604 of the City Charter and other related provisions of the City Charter, the Administrative Code, and the Penal Law are applicable under the terms of this Contract in relation to conflicts of interest and shall be extended to Subcontractors authorized to perform Work, labor and services pursuant to this Contract and further, it shall be the duty and responsibility of the Contractor to so inform its respective Subcontractors. Notice is hereby given that, under certain circumstances, penalties may be invoked against the donor as well as the recipient of any form of valuable gift.

ARTICLE 73. MERGER CLAUSE

73.1 The written Contract herein, contains all the terms and conditions agreed upon by the parties hereto, and no other agreement, oral or otherwise, regarding the subject matter of this Contract shall be deemed to exist or to bind any of the parties hereto, or to vary any of the terms contained herein.

ARTICLE 74. STATEMENT OF WORK

74.1 The Contractor shall furnish all labor and materials and perform all Work in strict accordance with the Specifications and Addenda thereto, numbered One.

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: Three hundred ninety nine thousand two hundred Dollars, (\$ 399,200.00), 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. nine thousand two hundred dollars

ARTICLE 76. ELECTRONIC FUNDS TRANSFER

76.1 In accordance with Section 6-107.1 of the Administrative Code, the Contractor agrees to accept payments under this Contract from the City by electronic funds transfer (EFT). An EFT is any transfer of funds, other than a transaction originated by check, draft or similar paper instrument, which is initiated through an electronic terminal, telephonic instrument or computer or magnetic tape so as to order, instruct or authorize a financial institution to debit or credit an account. Prior to the first payment made under this Contract, the Contractor shall designate one financial institution or other authorized payment agent and shall complete the attached "EFT Vendor Payment Enrollment Form" in order to provide the Commissioner of the City Department of Finance with information necessary for the Contractor to receive electronic funds transfer payments through a designated financial institution or authorized payment agent. The crediting of the amount of a payment to the appropriate account on the books of a financial institution or other authorized payment agent designated by the Contractor shall constitute full satisfaction by the City for the amount of the payment under this Contract. The account information supplied by the Contractor to facilitate the electronic funds transfer shall remain confidential to the fullest extent provided by Law.

76.2 The Commissioner may waive the application of the requirements of this Article 76 to payments on contracts entered into pursuant to Section 315 of the City Charter. In addition, the Commissioner of the Department of Finance and the Comptroller may jointly issue standards pursuant to

which the Agency may waive the requirements of this Article 76 for payments in the following circumstances: (i) for individuals or classes of individuals for whom compliance imposes a hardship; (ii) for classifications of types of checks; or (iii) in other circumstances as may be necessary in the interest of the City.

ARTICLE 77. RECORDS RETENTION

77.1 The Contractor agrees to retain all books, records, and other documents relevant to this Contract for six years after the final payment or termination of this Contract, whichever is later. City, state, and federal auditors and any other persons duly authorized by the City shall have full access to and the right to examine any such books, records, and other documents during the retention period.

ARTICLE 78. PARTICIPATION BY MINORITY-OWNED AND WOMEN-OWNED BUSINESS ENTERPRISES IN CITY PROCUREMENT

NOTICE TO ALL PROSPECTIVE CONTRACTORS

ARTICLE I. M/WBE PROGRAM

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

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

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

PART A

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

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

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

2. If Participation Goals have been established for this Contract or Task Orders issued pursuant to this Contract, Contractor agrees or shall agree as a material term of the Contract that Contractor shall be subject to the Participation

Goals, unless the goals are waived or modified by Agency in accordance with Section 6-129 and Part A, Sections 10 and 11 below, respectively.

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

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

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

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

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

C. **THE BIDDER/PROPOSER MUST COMPLETE THE SCHEDULE B INCLUDED HEREIN (SCHEDULE B, PART II). A SCHEDULE B SUBMITTED BY THE BIDDER/PROPOSER WHICH DOES NOT INCLUDE THE VENDOR CERTIFICATION AND REQUIRED AFFIRMATIONS (SEE SECTION V OF PART II) WILL BE DEEMED TO BE NON-RESPONSIVE, UNLESS A FULL WAIVER OF THE PARTICIPATION GOALS IS GRANTED (SCHEDULE B, PART III). IN THE EVENT THAT THE CITY DETERMINES THAT THE BIDDER/PROPOSER HAS SUBMITTED A SCHEDULE B WHERE THE VENDOR CERTIFICATION AND REQUIRED AFFIRMATIONS ARE COMPLETED BUT OTHER**

ASPECTS OF THE SCHEDULE B ARE NOT COMPLETE, OR CONTAIN A COPY OR COMPUTATION ERROR THAT IS AT ODDS WITH THE VENDOR CERTIFICATION AND AFFIRMATIONS, THE BIDDER/PROPOSER WILL BE NOTIFIED BY THE AGENCY AND WILL BE GIVEN FOUR (4) CALENDAR DAYS FROM RECEIPT OF NOTIFICATION TO CURE THE SPECIFIED DEFICIENCIES AND RETURN A COMPLETED SCHEDULE B TO THE AGENCY. FAILURE TO DO SO WILL RESULT IN A DETERMINATION THAT THE BID/PROPOSAL IS NON-RESPONSIVE. RECEIPT OF NOTIFICATION IS DEFINED AS THE DATE NOTICE IS E-MAILED OR FAXED (IF THE BIDDER/PROPOSER HAS PROVIDED AN E-MAIL ADDRESS OR FAX NUMBER), OR NO LATER THAN FIVE (5) CALENDAR DAYS FROM THE DATE OF MAILING OR UPON DELIVERY, IF DELIVERED.

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

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

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

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

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

10. Pre-award waiver of the **Participation Goals**. (a) A bidder or proposer, or contractor with respect to a Task Order, may seek a pre-award full or partial waiver of the **Participation Goals** in accordance with Section 6-129, which

requests that Agency change one or more **Participation Goals** on the grounds that the **Participation Goals** are unreasonable in light of the availability of certified firms to perform the services required, or by demonstrating that it has legitimate business reasons for proposing a lower level of subcontracting in its M/WBE Utilization Plan.

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

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

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

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

- (i) The Contractor advertised opportunities to participate in the Contract, where appropriate, in general circulation media, trade and professional association publications and small business media, and publications of minority and women's business organizations;
- (ii) The Contractor provided notice of specific opportunities to participate in the Contract, in a timely manner, to minority and women's business organizations;
- (iii) The Contractor sent written notices, by certified mail or facsimile, in a timely manner, to advise MBEs or WBEs that their interest in the Contract was solicited;
- (iv) The Contractor made efforts to identify portions of the work that could be substituted for portions originally designated for participation by MBEs and/or WBEs in the M/WBE Utilization Plan, and for which the Contractor claims an inability to retain MBEs or WBEs;
- (v) The Contractor held meetings with MBEs and/or WBEs prior to the date their bids or proposals were due, for the purpose of explaining in detail the scope and requirements of the work for which their bids or proposals were solicited;
- (vi) The Contractor made efforts to negotiate with MBEs and/or WBEs as relevant to perform specific subcontracts, or act as suppliers or service providers;
- (vii) Timely written requests for assistance made by the Contractor to Agency's M/WBE liaison officer and to DSBS;

- (viii) Description of how recommendations made by DSBS and Agency were acted upon and an explanation of why action upon such recommendations did not lead to the desired level of participation of MBEs and/or WBEs.

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

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

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

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

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

PART B: MISCELLANEOUS.

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

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

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

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

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

ARTICLE II. ENFORCEMENT

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

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

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

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

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

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

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

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

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

THE CITY OF NEW YORK

By: 

Deputy Commissioner

CONTRACTOR: Royal Enterprise and Development, Inc.

By: 

(Member of Firm or Officer of Corporation)

Title: president

(Where Contractor is a Corporation, add):
Attest:



Secretary

(Seal)

ACKNOWLEDGMENT OF PRINCIPAL, IF A CORPORATION

State of New York County of Queens ss:

On this 9 day of March, before me personally came Edyke Kudlak
to me known, who, being by me duly sworn did depose and say that he resides at Belmont Ave. 40-17
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.

VICTORIA AYO-VAUGHAN
Notary Public, State of New York
Registration #01AY5014042
Qualified in Queens County
Commission Expires July 15, 2025

[Signature]
Notary Public or Commissioner of Deeds

ACKNOWLEDGMENT OF PRINCIPAL, IF A PARTNERSHIP

State of _____ County of _____ ss:

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

Notary Public or Commissioner of Deeds

ACKNOWLEDGMENT OF PRINCIPAL, IF AN INDIVIDUAL

State of _____ County of _____ ss:


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

Notary Public or Commissioner of Deeds

ACKNOWLEDGMENT BY COMMISSIONER

State of New York County of Queens ss:

On this 10th day of March 2015, 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 he 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, 2015

AUTHORITY

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

DATED
DATED

APPROPRIATION
COMMISSIONER'S CERTIFICATE

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

Three hundred ninety nine
thousand two hundred dollars

Dollars (\$ 399,200.00)

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

Department of Design and Construction

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


Deputy Commissioner

COMPTROLLER'S CERTIFICATE

The City of New York _____

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

\$ _____

Comptroller

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

Performance Bond #1 (Pages 90 to 93): Use if the total contract price is \$5 Million Or Less. Performance Bond #1 has been approved by the U.S. Small Business Administration ("SBA") for participation in its Bond Guarantee Program.

PERFORMANCE BOND #1 (Page 1)

PERFORMANCE BOND #1

KNOW ALL PERSONS BY THESE PRESENTS, That we, _____

hereinafter referred to as the "Principal", and _____

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

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

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

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

Performance Bond #1 (Pages 90 to 93): Use if the total contract price is \$5 Million Or Less. Performance Bond #1 has been approved by the U.S. Small Business Administration ("SBA") for participation in its Bond Guarantee Program.

PERFORMANCE BOND #1 (Page 2)

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

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

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

Performance Bond #1 (Pages 90 to 93): Use if the total contract price is \$5 Million Or Less. Performance Bond #1 has been approved by the U.S. Small Business Administration ("SBA") for participation in its Bond Guarantee Program.

PERFORMANCE BOND #1 (Page 3)

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

(Seal) _____(L.S.)
Principal

By: _____

(Seal) _____
Surety

By: _____

(Seal) _____
Surety

By: _____

(Seal) _____
Surety

By: _____

Bond Premium Rate _____

Bond Premium Cost _____

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

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

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

Performance Bond #1 (Pages 90 to 93): Use if the total contract price is \$5 Million Or Less. Performance Bond #1 has been approved by the U.S. Small Business Administration ("SBA") for participation in its Bond Guarantee Program.

PERFORMANCE BOND #1 (Page 4)

ACKNOWLEDGMENT OF PRINCIPAL, IF A CORPORATION

State of _____ County of _____ ss:

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

Notary Public or Commissioner of Deeds

ACKNOWLEDGMENT OF PRINCIPAL, IF A PARTNERSHIP

State of _____ County of _____ ss:

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

Notary Public or Commissioner of Deeds

ACKNOWLEDGMENT OF PRINCIPAL, IF AN INDIVIDUAL

State of _____ County of _____ ss:

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

Notary Public or Commissioner of Deeds

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

* * * * *

Affix Acknowledgments and Justification of Sureties

Performance Bond #2 (Pages 94 to 97): Use if the total contract price is more than \$5 Million.

PERFORMANCE BOND #2 (Page 1)

PERFORMANCE BOND #2

KNOW ALL PERSONS BY THESE PRESENTS, That we, _____

hereinafter referred to as the "Principal", and _____

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

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

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

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

Performance Bond #2 (Pages 94 to 97): Use if the total contract price is more than \$5 Million.

PERFORMANCE BOND #2 (Page2)

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 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 94 to 97): Use if the total contract price is more than \$5 Million.

PERFORMANCE BOND #2 (Page 3)

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

(Seal)

Principal (L.S.)

By: _____

(Seal)

Surety

By: _____

(Seal)

Surety

By: _____

(Seal)

Surety

By: _____

(Seal)

Surety

By: _____

(Seal)

Surety

Bond Premium Rate _____

Bond Premium Cost _____

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

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

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

Performance Bond #2 (Pages 94 to 97): Use if the total contract price is more than \$5 Million.

PERFORMANCE BOND #2 (Page 4)

ACKNOWLEDGMENT OF PRINCIPAL, IF A CORPORATION

State of _____ County of _____ ss:

On this _____ day of _____, 20____ before me personally came _____ to me known, who, being by me duly sworn did depose and say that he/she resides at _____; that he/she is the _____ of _____ the corporation described in and which executed the foregoing instrument; and that he signed his name to the foregoing instrument by order of the directors of said corporation as the duly authorized and binding act thereof.

Notary Public or Commissioner of Deeds

ACKNOWLEDGMENT OF PRINCIPAL, IF A PARTNERSHIP

State of _____ County of _____ ss:

On this _____ day of _____, 20____ before me personally came _____ to me known, who, being by me duly sworn did depose and say that he/she resides at _____; that he/she is _____ partner of _____, a limited/general partnership existing under the laws of the State of _____ the partnership described in and which executed the foregoing instrument; and that he/she signed his/her name to the foregoing instrument as the duly authorized and binding act of said partnership.

Notary Public or Commissioner of Deeds

ACKNOWLEDGMENT OF PRINCIPAL, IF AN INDIVIDUAL

State of _____ County of _____ ss:

On this _____ day of _____, 20____ before me personally came _____ to me known, who, being by me duly sworn did depose and say that he/she resides at _____, and that he/she is the individual whose name is subscribed to the within instrument and acknowledged to me that by his/her signature on the instrument, said individual executed the instrument.

Notary Public or Commissioner of Deeds

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

* * * * *

Affix Acknowledgments and Justification of Sureties.

Payment Bond (Pages 98 to 101): Use for any contract for which a Payment Bond is required.

PAYMENT BOND (Page 1)

PAYMENT BOND

KNOW ALL PERSONS BY THESE PRESENTS, That we, _____

hereinafter referred to as the "Principal", and _____

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

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

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

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

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

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

Payment Bond (Pages 98 to 101): Use for any contract for which a Payment Bond is required.

PAYMENT BOND (Page 2)

engaged who perform the work of laborers or mechanics at or in the vicinity of the site 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 placed 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 98 to 101): Use for any contract for which a Payment Bond is required.

PAYMENT BOND (Page 3)

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

(Seal) _____ (L.S.)
Principal

By: _____

(Seal) _____
Surety

By: _____

(Seal) _____
Surety

By: _____

(Seal) _____
Surety

By: _____

(Seal) _____
Surety

By: _____

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

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

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

Payment Bond (Pages 98 to 101): Use for any contract for which a Payment Bond is required.

PAYMENT BOND (Page 4)

ACKNOWLEDGMENT OF PRINCIPAL, IF A CORPORATION

State of _____ County of _____ ss:

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

Notary Public or Commissioner of Deeds

ACKNOWLEDGMENT OF PRINCIPAL, IF A PARTNERSHIP

State of _____ County of _____ ss:

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

Notary Public or Commissioner of Deeds

ACKNOWLEDGMENT OF PRINCIPAL, IF AN INDIVIDUAL

State of _____ County of _____ ss:

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

Notary Public or Commissioner of Deeds

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

* * * * *

Affix Acknowledgments and Justification of Sureties

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OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

LABOR LAW §220 PREVAILING WAGE SCHEDULE

Workers, Laborers and Mechanics employed on a public work project must receive not less than the prevailing rate of wage and benefits for the classification of work performed by each upon such public work. Pursuant to Labor Law §220 the Comptroller of the City of New York has promulgated this schedule solely for Workers, Laborers and Mechanics engaged by private contractors on New York City public work contracts.

This schedule is a compilation of separate determinations of the prevailing rate of wage and supplements made by the Comptroller for each trade classification listed herein pursuant to New York State Labor Law section 220 (5). The source of the wage and supplement rates, whether a collective bargaining agreement, survey data or other, is listed at the end of each classification.

Agency Chief Contracting Officers should contact the Bureau of Labor Law's Classification Unit with any questions concerning trade classifications, prevailing rates or prevailing practices with respect to procurement on New York City public works contracts. Contractors are advised to review the Comptroller's Prevailing Wage Schedule before bidding on public works contracts. Contractors with questions concerning trade classifications, prevailing rates or prevailing practices with respect to public works contracts in the procurement stage must contact the contracting agency responsible for the procurement.

Any error as to compensation under the prevailing wage law or other information as to trade classification, made by the contracting agency in the contract documents or in any other communication, will not preclude a finding against the contractor of prevailing wage violation.

Any questions concerning trade classifications, prevailing rates or prevailing practices on New York City public works contracts that have already been awarded may be directed to the Bureau of Labor Law's Classification Unit by calling (212) 669-7974. All callers must have the agency name and contract registration number available when calling with questions on public works contracts. Please direct all other compliance issues to: Bureau of Labor Law, Attn: Wasyi Kinach, P.E., Office of the Comptroller, 1 Centre Street, Room 1122, New York, N.Y. 10007; Fax (212) 669-4002.

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

This schedule is applicable to work performed during the effective period, unless otherwise noted. Changes to this schedule are published on our web site www.comptroller.nyc.gov. Contractors must pay the wages and supplements in effect when the worker, laborer, mechanic performs the work. Preliminary schedules for future one-year periods appear in the City Record on or about June 1 each succeeding year. Final schedules appear on or about July 1 in the City Record and on our web site www.comptroller.nyc.gov.

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

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

Prevailing rates and ratios for apprentices are attached to this schedule in the Appendix. Pursuant to Labor Law §220 (3-e), only apprentices who are individually registered in a bona fide program to which the employer contractor is a participant, registered with the New York State Department of Labor, may be employed on a public work project. Workers who are not journey persons or not registered apprentices pursuant to Labor Law §220 (3-e) may not be substituted for apprentices and must be paid as journey persons.

Public Work construction, reconstruction, demolition, excavation, rehabilitation, repair, renovation, alteration, or improvement contracts awarded pursuant to a Project Labor Agreement ("PLA") in accordance with Labor Law section 222 may have different labor standards for shift, premium and overtime work. Please refer to the PLA's pre-negotiated labor agreements for wage and benefit rates applicable to work performed outside of the regular workday. More information is available at the Mayor's Office of Contract Services (MOCS) web page at <http://www.nyc.gov/html/mocs/html/vendors/pla.shtml>.

All the provisions of Labor Law section 220 remain applicable to PLA work including, but not limited to, the enforcement of prevailing wage requirements by the Comptroller; however, we will enforce shift, premium, overtime and other non-standard rates as they appear in a project's pre-negotiated labor agreement.

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

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

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.

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

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

TABLE OF CONTENTS

<u>CLASSIFICATION</u>	<u>PAGE</u>
ASBESTOS HANDLER	5
BLASTER	5
BOILERMAKER	7
BRICKLAYER	8
CARPENTER - BUILDING COMMERCIAL	9
CARPENTER - HEAVY CONSTRUCTION WORK	10
CEMENT & CONCRETE WORKER	11
CEMENT MASON	11
CORE DRILLER	12
DERRICKPERSON AND RIGGER	14
DIVER	14
DOCKBUILDER - PILE DRIVER	15
DRIVER: TRUCK (TEAMSTER)	16
ELECTRICIAN	18
ELECTRICIAN - ALARM TECHNICIAN	22
ELECTRICIAN-STREET LIGHTING WORKER	23
ELEVATOR CONSTRUCTOR	24
ELEVATOR REPAIR & MAINTENANCE	25
ENGINEER	26
ENGINEER - CITY SURVEYOR AND CONSULTANT	31
ENGINEER - FIELD (BUILDING CONSTRUCTION)	32
ENGINEER - FIELD (HEAVY CONSTRUCTION)	33
ENGINEER - FIELD (STEEL ERECTION)	34
ENGINEER - OPERATING	35
FLOOR COVERER	42
GLAZIER	43
GLAZIER - REPAIR & MAINTENANCE	44
HEAT AND FROST INSULATOR	45
HOUSE WRECKER	46
IRON WORKER - ORNAMENTAL	47
IRON WORKER - STRUCTURAL	48
LABORER	48
LANDSCAPING	49
MARBLE MECHANIC	51
MASON TENDER	52

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

MASON TENDER (INTERIOR DEMOLITION WORKER).....	53
METALLIC LATHER.....	54
MILLWRIGHT.....	55
MOSAIC MECHANIC.....	56
PAINTER.....	57
PAINTER - SIGN.....	57
PAINTER - STRIPER.....	58
PAINTER - STRUCTURAL STEEL.....	59
PAPERHANGER.....	60
PAVER AND ROADBUILDER.....	61
PLASTERER.....	63
PLASTERER - TENDER.....	63
PLUMBER.....	64
PLUMBER (MECHNICAL EQUIPMENT AND SERVICE).....	65
PLUMBER (RESIDENTIAL RATES FOR 1, 2 AND 3 FAMILY HOME CONSTRUCTION).....	66
PLUMBER: PUMP & TANK.....	67
POINTER - WATERPROOFER, CAULKER MECHANIC (EXTERIOR BUILDING RENOVATION).....	67
ROOFER.....	68
SANDBLASTER - STEAMBLASTER.....	69
SHEET METAL WORKER.....	70
SHEET METAL WORKER - SPECIALTY.....	71
SHIPYARD WORKER.....	72
SIGN ERECTOR.....	73
STEAMFITTER.....	74
STEAMFITTER - REFRIGERATION AND AIR CONDITIONER.....	75
STONE MASON - SETTER.....	77
TAPER.....	78
TELECOMMUNICATION WORKER.....	79
TILE FINISHER.....	80
TILE LAYER - SETTER.....	80
TIMBERPERSON.....	81
TUNNEL WORKER.....	82
WELDER.....	84

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

ASBESTOS HANDLER

(Hazardous Material; Disturbs, removes, encapsulates, repairs, or encloses friable asbestos material)

Asbestos Handler

Effective Period: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$36.00

Supplemental Benefit Rate per Hour: \$15.45

Overtime

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

Time and one half the regular rate for Sunday.

Time and one half the regular hourly rate after 40 hours in any work week.

Overtime Holidays

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

New Year's Day

Good Friday

Memorial Day

Independence Day

Labor Day

Thanksgiving Day

Christmas Day

Easter

Paid Holidays

None

(Local #78 and Local #12A)

BLASTER

Blaster

Effective Period: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$45.70

Supplemental Benefit Rate per Hour: \$39.69

Blaster (Hydraulic)

Effective Period: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$46.49

Supplemental Benefit Rate per Hour: \$39.69

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

Blaster - Trac Drill Hydraulic

Effective Period: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$41.20

Supplemental Benefit Rate per Hour: \$39.69

Blaster - Wagon: Air Trac: Quarry Bar: Drillrunners

Effective Period: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$40.44

Supplemental Benefit Rate per Hour: \$39.69

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: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$39.43

Supplemental Benefit Rate per Hour: \$39.69

Blaster - Powder Carriers

Effective Period: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$35.66

Supplemental Benefit Rate per Hour: \$39.69

Blaster - Hydraulic Trac Drill Chuck Tender

Effective Period: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$34.42

Supplemental Benefit Rate per Hour: \$39.69

Blaster - Chuck Tender & Nipper

Effective Period: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$33.69

Supplemental Benefit Rate per Hour: \$39.69

Blaster - Magazine Keepers: (Watch Person)

Effective Period: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$20.30

Supplemental Benefit Rate per Hour: \$39.69

Overtime Description

Magazine Keepers:

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

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: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$50.45

Supplemental Benefit Rate per Hour: \$41.31.

Supplemental Note: 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.

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

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: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$47.78

Supplemental Benefit Rate per Hour: \$28.03

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.

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

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: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$49.88

Supplemental Benefit Rate per Hour: \$44.10

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
Day after Thanksgiving
Christmas Day

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

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: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$48.35

Supplemental Benefit Rate per Hour: \$46.12

Overtime

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

Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

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

Overtime Holidays

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

New Year's Day

President's Day

Memorial Day

Independence Day

Labor Day

Columbus Day

Presidential Election Day

Thanksgiving Day

Christmas Day

Paid Holidays

None

Shift Rates

Off shift work commencing between 5:00 P.M. and 11:00 P.M. shall work eight and one half hours allowing for one half hour for lunch. The wage rate shall be 113% of the straight time hourly wage rate.

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

(Carpenters District Council)

CEMENT & CONCRETE WORKER

Cement & Concrete Worker

Effective Period: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$42.38

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

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
\$220 PREVAILING WAGE SCHEDULE

Effective Period: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$38.88

Supplemental Benefit Rate per Hour: \$39.80

Supplemental Note: For time and one half overtime - \$49.05; For double overtime - \$58.30

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: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$35.71

Supplemental Benefit Rate per Hour: \$21.69

Core Driller Helper

Effective Period: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$28.60

Supplemental Benefit Rate per Hour: \$21.69

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

Core Driller Helper(Third year in the industry)

Effective Period: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$25.74

Supplemental Benefit Rate per Hour: \$21.69

Core Driller Helper (Second year in the industry)

Effective Period: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$22.88

Supplemental Benefit Rate per Hour: \$21.69

Core Driller Helper (First year in the industry)

Effective Period: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$20.02

Supplemental Benefit Rate per Hour: \$21.69

Overtime Description

Time and one half the regular rate for work on a holiday plus Holiday pay when worked.

Overtime

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

Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

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

Paid Holidays

New Year's Day

Memorial Day

Independence Day

Labor Day

Thanksgiving Day

Christmas Day

Shift Rates

The shift day shall be the continuous eight and one-half (8½) hours from 6:00 A.M. to 2:30 P.M. and from 2:30 P.M. to 11:00 P.M., including one-half (½) hour of employees regular rate of pay for lunch. When two (2) or more shifts are employed, single time shall be paid for each shift, but those employees employed on a shift other than from 8:00 A.M. to 5:00 P.M. shall, in addition, receive seventy-five cents (\$0.75) per hour differential for each hour worked. When three (3) shifts are needed, each shift shall work seven and one-half (7 ½) hours paid for eight (8) hours of labor and be permitted one-half (½) hour for mealtime.

(Carpenters District Council)

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

DERRICKPERSON AND RIGGER

Derrick Person & Rigger

Effective Period: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$42.25

Supplemental Benefit Rate per Hour: \$47.81

Supplemental Note: The above supplemental rate applies for work performed in Manhattan, Bronx, Brooklyn and Queens. \$49.23 - For work performed in Staten Island.

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: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$61.30

Supplemental Benefit Rate per Hour: \$46.12

Diver Tender (Marine)

Effective Period: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$43.45

Supplemental Benefit Rate per Hour: \$46.12

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

Overtime

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

Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

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

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: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$48.35

Supplemental Benefit Rate per Hour: \$46.12

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

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

Memorial Day
Independence Day
Labor Day
Columbus Day
Presidential Election Day
Thanksgiving Day
Christmas Day

Paid Holidays

None

Shift Rates

Off shift work commencing between 5:00 P.M. and 11:00 P.M. shall work eight and one half hours allowing for one half hour for lunch. The wage rate shall be 113% of the straight time hourly wage rate.

(Carpenters District Council)

DRIVER: TRUCK (TEAMSTER)

Driver - Dump Truck

Effective Period: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$38.86

Supplemental Benefit Rate per Hour: \$40.44

Supplemental Note: Over 40 hours worked: time and one half rate \$16.94, double time rate \$22.59

Driver - Tractor Trailer

Effective Period: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$38.88

Supplemental Benefit Rate per Hour: \$41.70

Supplemental Note: For over 40 hours worked: at time and one half - \$15.90; at double time - \$21.21

Driver - Euclid & Turnapull Operator

Effective Period: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$39.44

Supplemental Benefit Rate per Hour: \$41.70

Supplemental Note: Over 40 hours worked: time and one half rate \$15.90, double time rate \$21.21

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.

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

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 (Sand & Gravel)

Effective Period: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$36.05

Supplemental Benefit Rate per Hour: \$38.60

Supplemental Note: Over 40 hours worked: time and one half rate \$13.53, double time rate \$18.04

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

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

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: 7/1/2014 - 5/12/2015

Wage Rate per Hour: \$53.00

Supplemental Benefit Rate per Hour: \$47.54

Effective Period: 5/13/2015 - 6/30/2015

Wage Rate per Hour: \$54.00

Supplemental Benefit Rate per Hour: \$50.03

Electrician "A" (Regular Day Overtime)

Effective Period: 7/1/2014 - 5/12/2015

Wage Rate per Hour: \$79.50

Supplemental Benefit Rate per Hour: \$50.86

Effective Period: 5/13/2015 - 6/30/2015

Wage Rate per Hour: \$81.00

Supplemental Benefit Rate per Hour: \$53.41

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
\$220 PREVAILING WAGE SCHEDULE

Electrician "A" (Day Shift)

Effective Period: 7/1/2014 - 5/12/2015

Wage Rate per Hour: \$53.00

Supplemental Benefit Rate per Hour: \$47.54

Effective Period: 5/13/2015 - 6/30/2015

Wage Rate per Hour: \$54.00

Supplemental Benefit Rate per Hour: \$50.03

Electrician "A" (Day Shift Overtime After 8 hours)

Effective Period: 7/1/2014 - 5/12/2015

Wage Rate per Hour: \$79.50

Supplemental Benefit Rate per Hour: \$50.86

Effective Period: 5/13/2015 - 6/30/2015

Wage Rate per Hour: \$81.00

Supplemental Benefit Rate per Hour: \$53.41

Electrician "A" (Swing Shift)

Effective Period: 7/1/2014 - 5/12/2015

Wage Rate per Hour: \$62.19

Supplemental Benefit Rate per Hour: \$54.07

Effective Period: 5/13/2015 - 6/30/2015

Wage Rate per Hour: \$63.36

Supplemental Benefit Rate per Hour: \$56.94

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

Effective Period: 7/1/2014 - 5/12/2015

Wage Rate per Hour: \$93.29

Supplemental Benefit Rate per Hour: \$57.97

Effective Period: 5/13/2015 - 6/30/2015

Wage Rate per Hour: \$95.04

Supplemental Benefit Rate per Hour: \$60.91

Electrician "A" (Graveyard Shift)

Effective Period: 7/1/2014 - 5/12/2015

Wage Rate per Hour: \$69.66

Supplemental Benefit Rate per Hour: \$59.59

Effective Period: 5/13/2015 - 6/30/2015

Wage Rate per Hour: \$70.97

Supplemental Benefit Rate per Hour: \$62.78

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

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

Effective Period: 7/1/2014 - 5/12/2015

Wage Rate per Hour: \$104.49

Supplemental Benefit Rate per Hour: \$63.96

Effective Period: 5/13/2015 - 6/30/2015

Wage Rate per Hour: \$106.46

Supplemental Benefit Rate per Hour: \$67.23

Overtime

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

Time and one half the regular rate for Saturday.

Time and one half the regular rate for Sunday.

Overtime Holidays

Time and one half the regular rate for work on a holiday.

New Year's Day

Martin Luther King Jr. Day

President's Day

Memorial Day

Independence Day

Labor Day

Columbus Day

Veteran's Day

Thanksgiving Day

Day after Thanksgiving

Christmas Day

Paid Holidays

None

Shift Rates

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

For multiple shifts of temporary light and/or power, the temporary light and/or power employee shall be paid for 8 hours at the straight time rate. For three or less workers performing 8 hours temporary light and/or power the supplemental benefit rate is \$23.63. Effective 5/13/2015 - \$24.39.

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.

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

Effective Period: 7/1/2014 - 5/12/2015

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

Effective Period: 5/13/2015 - 6/30/2015

Wage Rate per Hour: \$27.50

Supplemental Benefit Rate per Hour: \$20.82

First and Second Year "M" Wage Rate Per Hour - Hired on or before 5/10/07: \$26.80

First and Second Year "M" Supplemental Rate- Hired on or before 5/10/07: \$20.46

First and Second Year "M" Wage Rate Per Hour - Hired after 5/10/07: \$23.00

First and Second Year "M" Supplemental Rate- Hired after 5/10/07: \$18.56

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: 7/1/2014 - 5/12/2015

Wage Rate per Hour: \$40.50

Supplemental Benefit Rate per Hour: \$22.01

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

Effective Period: 5/13/2015 - 6/30/2015

Wage Rate per Hour: \$41.25

Supplemental Benefit Rate per Hour: \$22.54

First and Second Year "M" Wage Rate Per Hour - Hired on or before 5/10/07: \$40.20

First and Second Year "M" Supplemental Rate- Hired on or before 5/10/07: \$22.14

First and Second Year "M" Wage Rate Per Hour - Hired after 5/10/07: \$34.50

First and Second Year "M" Supplemental Rate- Hired after 5/10/07: \$20.00

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

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
\$220 PREVAILING WAGE SCHEDULE

Columbus Day
Veteran's Day
Thanksgiving Day
Day after Thanksgiving
Christmas Day

Paid Holidays

None

(Local #3)

ELECTRICIAN - ALARM TECHNICIAN

(Scope of Work - Inspect, test, repair, and replace defective, malfunctioning, or broken devices, components and controls of Fire, Burglar and Security Systems)

Alarm Technician

Effective Period: 7/1/2014 - 6/30/2015

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

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

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: 7/1/2014 - 5/19/2015
Wage Rate per Hour: **\$53.00**
Supplemental Benefit Rate per Hour: **\$49.34**

Effective Period: 5/20/2015 - 6/30/2015
Wage Rate per Hour: **\$54.00**
Supplemental Benefit Rate per Hour: **\$51.86**

Electrician - Electro Pole Foundation Installer

Effective Period: 7/1/2014 - 5/19/2015
Wage Rate per Hour: **\$40.18**
Supplemental Benefit Rate per Hour: **\$37.73**

Effective Period: 5/20/2015 - 6/30/2015
Wage Rate per Hour: **\$40.93**
Supplemental Benefit Rate per Hour: **\$39.46**

Electrician - Electro Pole Maintainer

Effective Period: 7/1/2014 - 5/19/2015
Wage Rate per Hour: **\$34.40**
Supplemental Benefit Rate per Hour: **\$34.00**

Effective Period: 5/20/2015 - 6/30/2015
Wage Rate per Hour: **\$35.05**
Supplemental Benefit Rate per Hour: **\$35.51**

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

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: 7/1/2014 - 3/16/2015

Wage Rate per Hour: \$58.23

Supplemental Benefit Rate per Hour: \$29.47

Effective Period: 3/17/2015 - 6/30/2015

Wage Rate per Hour: \$59.55

Supplemental Benefit Rate per Hour: \$31.07

Overtime Description

For New Construction: work performed after 7 or 8 hour day, Saturday, Sunday or between 4:30pm and 7:00am shall be paid at double time rate.

Existing buildings: work performed after an 8 hour day, Saturday, Sunday or between 5:30pm and 7:00 am shall be paid time and one half.

Overtime

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

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

Paid Holidays

New Year's Day
President's Day
Good Friday
Memorial Day
Independence Day
Labor Day
Columbus Day
Veteran's Day
Thanksgiving Day
Day after Thanksgiving
Christmas Day

Vacation

Employer contributes 8% of regular basic hourly rate as vacation pay for employees with more than 15 years of service, and 6% for employees with 5 to 15 years of service, and 4% for employees with less than 5 years of service.

(Local #1)

ELEVATOR REPAIR & MAINTENANCE

Elevator Service/Modernization Mechanic

Effective Period: 7/1/2014 - 3/16/2015

Wage Rate per Hour: \$46.00

Supplemental Benefit Rate per Hour: \$28.78

Effective Period: 3/17/2015 - 6/30/2015

Wage Rate per Hour: \$46.92

Supplemental Benefit Rate per Hour: \$30.91

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
Independence Day

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
\$220 PREVAILING WAGE SCHEDULE

Labor 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

Cherry pickers 20 tons and over and Loaders (rubber tired and/or tractor type with a manufacturer's minimum rated capacity of six cubic yards and over).

Effective Period: 7/1/2014 - 6/30/2015

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-A-alls, Meyers Machines, John Beam and machines of a similar nature, Ross Carriers and Travel Lifts and machines of a similar nature, Bulldozers, Scrapers and Turn-a-Pulls: Tugger Hoists (Used exclusively for handling excavated material); Tractors with attachments, Hyster and Roustabout Cranes, Cherry pickers, Austin Western, Grove and machines of a similar nature, Scoopmobiles, Monorails, Conveyors, Trenchers: Loaders-Rubber Tired and Tractor: Barber Greene and Eimco Loaders and Eimco Backhoes; Mighty Midget and similar breakers and Tampers, Curb and Gutter Pavers and Motor Patrol, Motor Graders and all machines of a similar nature. Locomotives 10 Tons or under. Mini-Max, Break-Tech and machines of a similar nature; Milling machines, robotic and demolition machines and machines of a similar nature, shot blaster, skid steer machines and machines of a similar nature including bobcat, pile rig rubber-tired excavator (37,000 lbs. and under), 2 man auger.

Effective Period: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$59.24

Supplemental Benefit Rate per Hour: \$31.93

Supplemental Note: \$57.46 on overtime

Shift Wage Rate: \$94.78

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

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: 7/1/2014 - 6/30/2015

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: 7/1/2014 - 6/30/2015

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: 7/1/2014 - 6/30/2015

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: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$39.10

Supplemental Benefit Rate per Hour: \$31.93

Supplemental Note: \$57.46 on overtime

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

Shift Wage Rate: \$62.56

Engineer - Heavy Construction Maintenance Engineer IV

On Pumps and Mixers including mud sucking

Effective Period: 7/1/2014 - 6/30/2015

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: 7/1/2014 - 6/30/2015

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, Gunitite Machines, Battery of Compressors, Crawler Cranes, two-person Trenching Machines.

Effective Period: 7/1/2014 - 6/30/2015

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: 7/1/2014 - 6/30/2015

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: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$53.43

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

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: 7/1/2014 - 6/30/2015
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

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: 7/1/2014 - 6/30/2015
Wage Rate per Hour: \$54.04

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
\$220 PREVAILING WAGE SCHEDULE

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: 7/1/2014 - 6/30/2015

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: 7/1/2014 - 6/30/2015

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, Guniting Machines, Compressors (three or more in Battery).

Effective Period: 7/1/2014 - 6/30/2015

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

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

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: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$35.55

Supplemental Benefit Rate per Hour: \$17.65

Instrument Person

Effective Period: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$29.41

Supplemental Benefit Rate per Hour: \$17.65

Rodperson

Effective Period: 7/1/2014 - 6/30/2015

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

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
\$220 PREVAILING WAGE SCHEDULE

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: 7/1/2014 - 6/30/2015

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: 7/1/2014 - 6/30/2015

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: 7/1/2014 - 6/30/2015

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

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

(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: 7/1/2014 - 6/30/2015

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: 7/1/2014 - 6/30/2015

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: 7/1/2014 - 6/30/2015

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

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
\$220 PREVAILING WAGE SCHEDULE

(Operating Engineer Local #15-D)

ENGINEER - FIELD (STEEL ERECTION)

Field Engineer - Steel Erection Party Chief

Effective Period: 7/1/2014 - 6/30/2015

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: 7/1/2014 - 6/30/2015

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: 7/1/2014 - 6/30/2015

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

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
\$220 PREVAILING WAGE SCHEDULE

(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: 7/1/2014 - 6/30/2015

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: 7/1/2014 - 6/30/2015

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: 7/1/2014 - 6/30/2015

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: 7/1/2014 - 6/30/2015

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

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
\$220 PREVAILING WAGE SCHEDULE

Pile Drivers & Rigs (employing Dock Builder foreperson): Derrick Boats, Tunnel Shovels.

Effective Period: 7/1/2014 - 6/30/2015

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: 7/1/2014 - 6/30/2015

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: 7/1/2014 - 6/30/2015

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: 7/1/2014 - 6/30/2015

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: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$62.53

Supplemental Benefit Rate per Hour: \$28.60

Supplemental Note: \$51.75 overtime hours

Shift Wage Rate: \$100.05

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

Operating Engineer - Road & Heavy Construction X

Elevators (manually operated as personnel hoist).

Effective Period: 7/1/2014 - 6/30/2015

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: 7/1/2014 - 6/30/2015

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: 7/1/2014 - 6/30/2015

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: 7/1/2014 - 6/30/2015

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: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$61.53

Supplemental Benefit Rate per Hour: \$28.60

Supplemental Note: \$51.75 overtime hours

Shift Wage Rate: \$98.45

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

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: 7/1/2014 - 6/30/2015

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: 7/1/2014 - 6/30/2015

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: 7/1/2014 - 6/30/2015

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: 7/1/2014 - 6/30/2015

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: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$65.76

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

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: 7/1/2014 - 6/30/2015
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: 7/1/2014 - 6/30/2015
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: 7/1/2014 - 6/30/2015
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: 7/1/2014 - 6/30/2015
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: 7/1/2014 - 6/30/2015
Wage Rate per Hour: \$56.16
Supplemental Benefit Rate per Hour: \$28.60
Supplemental Note: \$51.75 overtime hours

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
\$220 PREVAILING WAGE SCHEDULE

Operating Engineer - Steel Erection I

Three Drum Derricks

Effective Period: 7/1/2014 - 6/30/2015

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: 7/1/2014 - 6/30/2015

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: 7/1/2014 - 6/30/2015

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: 7/1/2014 - 6/30/2015

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: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$57.82

Supplemental Benefit Rate per Hour: \$28.60

Supplemental Note: \$51.75 overtime hours

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
\$220 PREVAILING WAGE SCHEDULE

Operating Engineer - Building Work II

Compressors, Welding Machines (Cutting Concrete-Tank Work), Paint Spraying, Sandblasting, Pumps (with the exclusion of Concrete Pumps), All Engines irrespective of Power (Power-Pac) used to drive Auxiliary Equipment, Air, Hydraulic, Jacking System, etc.

Effective Period: 7/1/2014 - 6/30/2015

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: 7/1/2014 - 6/30/2015

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: 7/1/2014 - 6/30/2015

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: 7/1/2014 - 6/30/2015

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: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$63.58

Supplemental Benefit Rate per Hour: \$28.60

Supplemental Note: \$51.75 overtime hours

Operating Engineer - Building Work VII

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
\$220 PREVAILING WAGE SCHEDULE

Rack & Pinion and House Cars

Effective Period: 7/1/2014 - 6/30/2015

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

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

Effective Period: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$49.88

Supplemental Benefit Rate per Hour: \$44.10

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.

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: 7/1/2014 - 10/31/2014

Wage Rate per Hour: \$42.50

Supplemental Benefit Rate per Hour: \$35.09

Supplemental Note: Supplemental Benefit Overtime Rate: \$43.59

Effective Period: 11/1/2014 - 6/30/2015

Wage Rate per Hour: \$42.85

Supplemental Benefit Rate per Hour: \$35.59

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

Supplemental Note: Supplemental Benefit Overtime Rate: \$44.09

Overtime Description

An optional 8th hour can be worked at straight time rate. If 9th hour is worked, then both hours or more (8th & 9th or more) will be at the double time rate of pay.

Overtime

Double time the regular rate after a 7 hour day.

Double time the regular time rate for Saturday.

Double time the regular rate for Sunday.

Overtime Holidays

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

New Year's Day

President's Day

Memorial Day

Independence Day

Labor Day

Thanksgiving Day

Day after Thanksgiving

Christmas Day

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: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$23.60

Supplemental Benefit Rate per Hour: \$19.04

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
\$220 PREVAILING WAGE SCHEDULE

Overtime

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

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: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$56.98

Supplemental Benefit Rate per Hour: \$34.81

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

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

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 will be Tier A House Wreckers (i.e. 1st, 2nd, 11th, 14th etc). Other House Wreckers may be Tier B House Wreckers.

Effective Period: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$34.51

Supplemental Benefit Rate per Hour: \$25.59

House Wrecker - Tier B

Effective Period: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$24.02

Supplemental Benefit Rate per Hour: \$19.12

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

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

Paid Holidays

None

(Mason Tenders District Council)

IRON WORKER - ORNAMENTAL

Iron Worker - Ornamental

Effective Period: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$42.70

Supplemental Benefit Rate per Hour: \$45.77

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)

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

IRON WORKER - STRUCTURAL

Iron Worker - Structural

Effective Period: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$47.75

Supplemental Benefit Rate per Hour: \$65.35

Supplemental Note: Supplemental benefits are to be paid at the applicable overtime rate when overtime is in effect.

Overtime Description

Monday through Friday- the first eight hours are paid at straight time, the 9th and 10th hours are paid at time and one-half the regular rate, all additional weekday overtime is paid at double the regular rate. Saturdays- the first eight hours are paid at time and one-half the regular rate, double time thereafter. Sunday-all shifts are paid at double time.

Overtime

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

Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

Overtime Holidays

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)

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

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: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$39.85

Supplemental Benefit Rate per Hour: \$34.88

Overtime

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

Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

Overtime Holidays

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

New Year's Day

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)

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
\$220 PREVAILING WAGE SCHEDULE

Effective Period: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$25.75

Supplemental Benefit Rate per Hour: \$13.80

Landscaper (3 - 6 years experience)

Effective Period: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$24.75

Supplemental Benefit Rate per Hour: \$13.80

Landscaper (up to 3 years experience)

Effective Period: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$22.25

Supplemental Benefit Rate per Hour: \$13.80

Groundperson

Effective Period: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$22.25

Supplemental Benefit Rate per Hour: \$13.80

Tree Remover / Pruner

Effective Period: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$30.75

Supplemental Benefit Rate per Hour: \$13.80

Landscaper Sprayer (Pesticide Applicator)

Effective Period: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$20.75

Supplemental Benefit Rate per Hour: \$13.80

Watering - Plant Maintainer

Effective Period: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$15.75

Supplemental Benefit Rate per Hour: \$13.80

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.

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

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: 7/1/2014 - 12/31/2014

Wage Rate per Hour: **\$50.85**

Supplemental Benefit Rate per Hour: **\$34.21**

Effective Period: 1/1/2015 - 6/30/2015

Wage Rate per Hour: **\$51.15**

Supplemental Benefit Rate per Hour: **\$34.87**

Marble Finisher

Effective Period: 7/1/2014 - 12/31/2014

Wage Rate per Hour: **\$39.99**

Supplemental Benefit Rate per Hour: **\$33.34**

Effective Period: 1/1/2015 - 6/30/2015

Wage Rate per Hour: **\$40.26**

Supplemental Benefit Rate per Hour: **\$33.90**

Marble Polisher

Effective Period: 7/1/2014 - 12/31/2014

Wage Rate per Hour: **\$35.96**

Supplemental Benefit Rate per Hour: **\$25.92**

Effective Period: 1/1/2015 - 6/30/2015

Wage Rate per Hour: **\$36.25**

Supplemental Benefit Rate per Hour: **\$26.28**

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
\$220 PREVAILING WAGE SCHEDULE

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: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$36.05

Supplemental Benefit Rate per Hour: \$26.74

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

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

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: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$34.99

Supplemental Benefit Rate per Hour: \$21.10

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: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$24.18

Supplemental Benefit Rate per Hour: \$15.42

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

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
\$220 PREVAILING WAGE SCHEDULE

President's Day
Memorial Day
Independence Day
Labor Day
Thanksgiving Day
Christmas Day

Paid Holidays

None

(Local #79)

METALLIC LATHER

Metallic Lather

Effective Period: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$42.03

Supplemental Benefit Rate per Hour: \$41.07

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

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

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: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$48.44

Supplemental Benefit Rate per Hour: \$50.52

Overtime

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

Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

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

Overtime Holidays

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

New Year's Day

President's Day

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: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$45.23

Supplemental Benefit Rate per Hour: \$36.59

Supplemental Note: Supplemental benefits for overtime to be paid at the rate of \$47.56 per hour.

Mosaic Mechanic - Mosaic & Terrazzo Finisher

Effective Period: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$43.63

Supplemental Benefit Rate per Hour: \$36.57

Supplemental Note: Supplemental benefits for overtime to be paid at the rate of \$47.54 per hour.

Mosaic Mechanic - Machine Operator Grinder

Effective Period: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$43.63

Supplemental Benefit Rate per Hour: \$36.57

Supplemental Note: Supplemental benefits for overtime to be paid at the rate of \$47.54 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: 7/1/2014 - 6/30/2015

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: 7/1/2014 - 6/30/2015

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: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$36.15

Supplemental Benefit Rate per Hour: \$9.66

Journey person

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
\$220 PREVAILING WAGE SCHEDULE

Effective Period: 7/1/2014 - 6/30/2015

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: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$34.00

Supplemental Benefit Rate per Hour: \$12.60

Supplemental Note: Overtime Supplemental Benefit rate - \$8.35 New Hire Rate (0-3 months) - \$0.00

Lineperson (thermoplastic)

Effective Period: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$38.00

Supplemental Benefit Rate per Hour: \$12.60

Supplemental Note: Overtime Supplemental Benefit rate - \$8.35; 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.

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

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: 7/1/2014 - 9/30/2014

Wage Rate per Hour: \$47.00

Supplemental Benefit Rate per Hour: \$33.58

Effective Period: 10/1/2014 - 6/30/2015

Wage Rate per Hour: \$48.75

Supplemental Benefit Rate per Hour: \$34.58

Painter - Power Tool

Effective Period: 7/1/2014 - 9/30/2014

Wage Rate per Hour: \$53.00

Supplemental Benefit Rate per Hour: \$33.58

Effective Period: 10/1/2014 - 6/30/2015

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
\$220 PREVAILING WAGE SCHEDULE

Wage Rate per Hour: \$54.75

Supplemental Benefit Rate per Hour: \$34.58

Overtime Description

Supplemental Benefits shall be paid for each hour worked, up to forty (40) hours per week for the period of May 1st to November 15th or up to fifty (50) hours per week for the period of November 16th to April 30th.

Overtime

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

Time and one half the regular rate for Saturday.

Time and one half the regular rate for Sunday.

Overtime Holidays

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

New Year's Day

Memorial Day

Independence Day

Labor Day

Thanksgiving Day

Christmas Day

Paid Holidays

None

Shift Rates

Regular hourly rates plus a ten per cent (10%) differential

(Local #806)

PAPERHANGER

Paperhanger

Effective Period: 7/1/2014 - 6/30/2015

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

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

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: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$44.19

Supplemental Benefit Rate per Hour: \$35.15

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: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$40.32

Supplemental Benefit Rate per Hour: \$35.15

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: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$45.24

Supplemental Benefit Rate per Hour: \$35.15

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

Production Paver & Roadbuilder - Raker

Effective Period: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$44.73

Supplemental Benefit Rate per Hour: \$35.15

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: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$41.44

Supplemental Benefit Rate per Hour: \$35.15

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 15% 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)

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

PLASTERER

Plasterer

Effective Period: 7/1/2014 - 6/30/2015

Wage Rate per Hour: **\$42.43**

Supplemental Benefit Rate per Hour: **\$27.95**

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: 7/1/2014 - 6/30/2015

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

Wage Rate per Hour: \$35.53

Supplemental Benefit Rate per Hour: \$26.31

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: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$65.27

Supplemental Benefit Rate per Hour: \$25.78

Supplemental Note: Overtime supplemental benefit rate per hour: \$40.78

Plumber - Temporary Services

Temporary Services - When there are no Plumbers on the job site, there may be three shifts designed to cover the entire twenty-four hour period, including weekends if necessary, at the following rate straight time.

Effective Period: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$52.24

Supplemental Benefit Rate per Hour: \$20.20

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

Overtime Description

Double time the regular rate after a 7 hour day - unless for new construction site work where the plumbing contract price is \$1.5 million or less, the hours of labor can be 8 hours per day at the employers option. On Alteration jobs when other mechanical trades at the site are working an eighth hour at straight time, then the plumber shall also work an eighth hour at straight time.

Overtime

Double time the regular time rate for Saturday.
Double time the regular rate for Sunday.

Overtime Holidays

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

New Year's Day
President's Day
Memorial Day
Independence Day
Labor Day
Columbus Day
Veteran's Day
Thanksgiving Day
Day after Thanksgiving
Christmas Day

Shift Rates

Shift work, when directly specified in public agency or authority documents where plumbing contract is \$8 million or less, will be permitted. 30% shift premium shall be paid for wages and fringe benefits for 4:00 pm and midnight shifts Monday to Friday. 50% shift premium shall be paid for wages and fringe benefits for 4:00 pm and midnight shift work performed on weekends. For shift work on holidays, double time wages and fringe benefits shall be paid.

(Plumbers Local #1)

PLUMBER (MECHANICAL EQUIPMENT AND SERVICE)
(Mechanical Equipment and Service work shall include any repair and/or replacement of the present plumbing system.)

Plumber

Effective Period: 7/1/2014 - 6/30/2015
Wage Rate per Hour: \$38.27
Supplemental Benefit Rate per Hour: \$12.84

Overtime

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

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

Overtime Holidays

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

New Year's Day
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: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$45.19

Supplemental Benefit Rate per Hour: \$18.79

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.
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.

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

(Plumbers Local #1)

PLUMBER: PUMP & TANK
Oil Trades (Installation and Maintenance)

Plumber - Pump & Tank

Effective Period: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$62.83

Supplemental Benefit Rate per Hour: \$21.37

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

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

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
\$220 PREVAILING WAGE SCHEDULE

Effective Period: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$47.41

Supplemental Benefit Rate per Hour: \$24.40

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: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$40.70

Supplemental Benefit Rate per Hour: \$28.67

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

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
\$220 PREVAILING WAGE SCHEDULE

President'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: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$47.41

Supplemental Benefit Rate per Hour: \$24.40

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

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
\$220 PREVAILING WAGE SCHEDULE

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: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$46.21

Supplemental Benefit Rate per Hour: \$43.89

Supplemental Note: Supplemental benefit contributions are to be made at the applicable overtime rates.

Sheet Metal Worker - Fan Maintenance

(The temporary operation of fans or blowers in new or existing buildings for heating and/or ventilation, and/or air conditioning prior to the completion of the project.)

Effective Period: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$36.97

Supplemental Benefit Rate per Hour: \$43.89

Sheet Metal Worker - Duct Cleaner

Effective Period: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$12.90

Supplemental Benefit Rate per Hour: \$8.07

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

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

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: 7/1/2014 - 6/30/2015

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

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

None

(Local #28)

SHIPYARD WORKER

Shipyard Mechanic - First Class

Effective Period: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$23.83

Supplemental Benefit Rate per Hour: \$2.87

Shipyard Mechanic - Second Class

Effective Period: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$15.44

Supplemental Benefit Rate per Hour: \$2.54

Shipyard Laborer - First Class

Effective Period: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$19.28

Supplemental Benefit Rate per Hour: \$2.69

Shipyard Laborer - Second Class

Effective Period: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$12.36

Supplemental Benefit Rate per Hour: \$2.43

Shipyard Dockhand - First Class

Effective Period: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$22.68

Supplemental Benefit Rate per Hour: \$2.82

Shipyard Dockhand - Second Class

Effective Period: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$14.22

Supplemental Benefit Rate per Hour: \$2.50

Overtime Description

Work performed on holiday is paid double time the regular hourly wage rate plus holiday pay.

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

Overtime

Time and one half the regular rate after an 8 hour day.
Time and one half the regular rate for Saturday.
Double time the regular rate for Sunday.
Time and one half the regular hourly rate after 40 hours in any work week.

Paid Holidays

New Year's Day
Martin Luther King Jr. Day
President's Day
Good Friday
Memorial Day
Independence Day
Labor Day
Thanksgiving Day
Day after Thanksgiving
Christmas Day

Based on Survey Data

SIGN ERECTOR (Sheet Metal, Plastic, Electric, and Neon)

Sign Erector

Effective Period: 7/1/2014 - 6/30/2015
Wage Rate per Hour: \$44.20
Supplemental Benefit Rate per Hour: \$44.10

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

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
\$220 PREVAILING WAGE SCHEDULE

Shift Rates

Time and one half the regular hourly rate is to be paid for all hours worked outside the regular workday either (7:00 A.M. through 2:30 P.M.) or (8:00 A.M. through 3:30 P.M.)

(Local #137)

STEAMFITTER

Steamfitter I

Effective Period: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$53.25

Supplemental Benefit Rate per Hour: \$51.04

Supplemental Note: Overtime supplemental benefit rate: \$101.34

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.

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

Effective Period: 7/1/2014 - 6/30/2015

Wage Rate per Hour: **\$53.25**

Supplemental Benefit Rate per Hour: **\$51.04**

Supplemental Note: Overtime supplemental benefit rate: \$101.34

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: 7/1/2014 - 6/30/2015

Wage Rate per Hour: **\$38.30**

Supplemental Benefit Rate per Hour: **\$12.76**

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
\$220 PREVAILING WAGE SCHEDULE

Refrigeration and Air Conditioner Service Person V

Effective Period: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$31.47

Supplemental Benefit Rate per Hour: \$11.55

Refrigeration and Air Conditioner Service Person IV

Effective Period: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$26.07

Supplemental Benefit Rate per Hour: \$10.52

Refrigeration and Air Conditioner Service Person III

Filter changing and maintenance thereof, oil and greasing, tower and coil cleaning, scraping and painting, general housekeeping, taking of water samples.

Effective Period: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$22.38

Supplemental Benefit Rate per Hour: \$9.76

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: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$18.56

Supplemental Benefit Rate per Hour: \$9.06

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: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$13.57

Supplemental Benefit Rate per Hour: \$8.30

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

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

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: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$46.56

Supplemental Benefit Rate per Hour: \$36.40

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
Washington's Birthday
Good Friday
Memorial Day
Independence Day
Labor Day
Thanksgiving Day
Christmas Day

Paid Holidays

1/2 day on Christmas Eve if work is performed in the A.M.

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
\$220 PREVAILING WAGE SCHEDULE

Shift Rates

For all work outside the regular workday (8:00 A.M. to 3:30 P.M. Monday through Friday), the pay shall be straight time plus a ten percent (10%) differential.

(Bricklayers District Council)

TAPER

Drywall Taper

Effective Period: 7/1/2014 - 12/30/2014

Wage Rate per Hour: \$45.32

Supplemental Benefit Rate per Hour: \$22.66

Effective Period: 12/31/2014 - 6/30/2015

Wage Rate per Hour: \$45.82

Supplemental Benefit Rate per Hour: \$22.66

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: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$39.18

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.

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

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: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$38.80

Supplemental Benefit Rate per Hour: \$28.03

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

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

Tile Layer - Setter

Effective Period: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$49.88

Supplemental Benefit Rate per Hour: \$32.36

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: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$44.33

Supplemental Benefit Rate per Hour: \$45.39

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

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
\$220 PREVAILING WAGE SCHEDULE

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

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

Paid Holidays

None

Shift Rates

Off shift work commencing between 5:00 P.M. and 11:00 P.M. shall work eight and one half hours allowing for one half hour for lunch. The wage rate shall be 113% of the straight time hourly wage rate.

(Local #1536)

TUNNEL WORKER

Blasters, Mucking Machine Operators (Compressed Air Rates)

Effective Period: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$54.20

Supplemental Benefit Rate per Hour: \$48.20

Tunnel Workers (Compressed Air Rates)

Effective Period: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$52.31

Supplemental Benefit Rate per Hour: \$46.59

Top Nipper (Compressed Air Rates)

Effective Period: 7/1/2014 - 6/30/2015

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: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$50.42

Supplemental Benefit Rate per Hour: \$44.91

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

Bottom Bell & Top Bell Signal Person: Shaft Person (Compressed Air Rates)

Effective Period: 7/1/2014 - 6/30/2015
Wage Rate per Hour: \$50.42
Supplemental Benefit Rate per Hour: \$44.92

Changehouse Attendant: Powder Watchperson (Compressed Air Rates)

Effective Period: 7/1/2014 - 6/30/2015
Wage Rate per Hour: \$43.94
Supplemental Benefit Rate per Hour: \$42.55

Blasters (Free Air Rates)

Effective Period: 7/1/2014 - 6/30/2015
Wage Rate per Hour: \$51.72
Supplemental Benefit Rate per Hour: \$46.03

Tunnel Workers (Free Air Rates)

Effective Period: 7/1/2014 - 6/30/2015
Wage Rate per Hour: \$49.48
Supplemental Benefit Rate per Hour: \$44.06

All Others (Free Air Rates)

Effective Period: 7/1/2014 - 6/30/2015
Wage Rate per Hour: \$45.73
Supplemental Benefit Rate per Hour: \$40.75

Microtunneling (Free Air Rates)

Effective Period: 7/1/2014 - 6/30/2015
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

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 PREVAILING WAGE SCHEDULE

Lincoln's Birthday
President's Day
Memorial Day
Independence Day
Labor Day
Columbus Day
Election Day
Veteran's Day
Thanksgiving Day
Christmas Day

(Local #147)

WELDER
TO BE PAID AT THE RATE OF THE JOURNEYPERSON IN THE TRADE
PERFORMING THE WORK.

OFFICE OF THE COMPTROLLER

CITY OF NEW YORK

220 APPRENTICESHIP PREVAILING WAGE SCHEDULE

APPENDIX

Pursuant to Labor Law §220 (3-e), only apprentices who are individually registered in a bona fide program to which the employer contractor is a participant and registered with the New York State Department of Labor, may be employed on a public work project.

Any employee listed on a payroll at an apprentice wage rate, who is not registered as above, shall be paid the journey person wage rate for the classification of work he actually performed.

Apprentice ratios are established to ensure the proper safety, training and supervision of apprentices. A ratio establishes the number of journey workers required for each apprentice in a program and on a job site. Ratios are interpreted as follows: in the case of a 1:1, 1:4 ratio, there must be one journey worker for the first apprentice, and four additional journey workers for each subsequent apprentice.

TABLE OF CONTENTS

<u>CLASSIFICATION</u>	<u>PAGE</u>
ASBESTOS HANDLER.....	3
BOILERMAKER.....	3
BRICKLAYER.....	4
CARPENTER.....	5
CEMENT MASON.....	6
CEMENT AND CONCRETE WORKER.....	6
DERRICKPERSON & RIGGER (STONE).....	7
DOCKBUILDER/PILE DRIVER.....	8
ELECTRICIAN.....	8
ELEVATOR CONSTRUCTOR.....	11
ELEVATOR REPAIR & MAINTENANCE.....	12
ENGINEER.....	13
ENGINEER - OPERATING.....	14
FLOOR COVERER.....	14
GLAZIER.....	15
HEAT & FROST INSULATOR.....	16
HOUSE WRECKER.....	17
IRON WORKER - ORNAMENTAL.....	17
IRON WORKER - STRUCTURAL.....	18
LABORER (FOUNDATION, CONCRETE, EXCAVATING, STREET PIPE LAYER & COMMON)....	19
MARBLE MECHANICS.....	19
MASON TENDER.....	21
METALLIC LATHER.....	21
MILLWRIGHT.....	22
PAVER AND ROADBUILDER.....	23
PAINTER.....	24
PAINTER - STRUCTURAL STEEL.....	24
PLASTERER.....	25
PLUMBER.....	26
POINTER - WATERPROOFER, CAULKER MECHANIC (EXTERIOR BUILDING RENOVATION) .	27
ROOFER.....	27
SHEET METAL WORKER.....	28
SIGN ERECTOR.....	29
STEAMFITTER.....	31
STONE MASON - SETTER.....	31
TAPER.....	32
TILE LAYER - SETTER.....	33
TIMBERPERSON.....	33

ASBESTOS HANDLER

(Ratio of Apprentice Journeyperson: 1 to 1, 1 to 3)

Asbestos Handler (First 1000 Hours)

Effective Period: 7/1/2014 - 6/30/2015
Wage Rate Per Hour: 78% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: \$15.45

Asbestos Handler (Second 1000 Hours)

Effective Period: 7/1/2014 - 6/30/2015
Wage Rate Per Hour: 80% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: \$15.45

Asbestos Handler (Third 1000 Hours)

Effective Period: 7/1/2014 - 6/30/2015
Wage Rate Per Hour: 83% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: \$15.45

Asbestos Handler (Fourth 1000 Hours)

Effective Period: 7/1/2014 - 6/30/2015
Wage Rate Per Hour: 89% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: \$15.45

(Local #78)

BOILERMAKER

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 3)

Boilermaker (First Year)

Effective Period: 7/1/2014 - 6/30/2015
Wage Rate Per Hour: 65% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: \$29.74

Boilermaker (Second Year: 1st Six Months)

Effective Period: 7/1/2014 - 6/30/2015
Wage Rate Per Hour: 75% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: \$31.40

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
\$220 APPRENTICESHIP PREVAILING WAGE SCHEDULE

Boilermaker (Second Year: 2nd Six Months)

Effective Period: 7/1/2014 - 6/30/2015
Wage Rate Per Hour: 75% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: \$33.05

Boilermaker (Third Year: 1st Six Months)

Effective Period: 7/1/2014 - 6/30/2015
Wage Rate Per Hour: 80% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: \$34.69

Boilermaker (Third Year: 2nd Six Months)

Effective Period: 7/1/2014 - 6/30/2015
Wage Rate Per Hour: 85% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: \$36.34

Boilermaker (Fourth Year: 1st Six Months)

Effective Period: 7/1/2014 - 6/30/2015
Wage Rate Per Hour: 90% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: \$38.00

Boilermaker (Fourth Year: 2nd Six Months)

Effective Period: 7/1/2014 - 6/30/2015
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: 7/1/2014 - 6/30/2015
Wage Rate Per Hour: 50% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: \$17.10

Bricklayer (Second 750 Hours)

Effective Period: 7/1/2014 - 6/30/2015
Wage Rate Per Hour: 60% of Journeyperson's rate

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
\$220 APPRENTICESHIP PREVAILING WAGE SCHEDULE

Supplemental Benefit Rate Per Hour: \$17.10

Bricklayer (Third 750 Hours)

Effective Period: 7/1/2014 - 6/30/2015
Wage Rate Per Hour: 70% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: \$17.10

Bricklayer (Fourth 750 Hours)

Effective Period: 7/1/2014 - 6/30/2015
Wage Rate Per Hour: 80% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: \$17.10

Bricklayer (Fifth 750 Hours)

Effective Period: 7/1/2014 - 6/30/2015
Wage Rate Per Hour: 90% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: \$17.10

Bricklayer (Sixth 750 Hours)

Effective Period: 7/1/2014 - 6/30/2015
Wage Rate Per Hour: 95% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: \$17.10

(Bricklayer District Council)

CARPENTER

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 4)

Carpenter (First Year)

Effective Period: 7/1/2014 - 6/30/2015
Wage Rate Per Hour: 40% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: \$30.25

Carpenter (Second Year)

Effective Period: 7/1/2014 - 6/30/2015
Wage Rate Per Hour: 50% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: \$30.25

Carpenter (Third Year)

Effective Period: 7/1/2014 - 6/30/2015

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
\$220 APPRENTICESHIP PREVAILING WAGE SCHEDULE

Wage Rate Per Hour: 65% of Journeyman's rate
Supplemental Benefit Rate Per Hour: \$30.25

Carpenter (Fourth Year)

Effective Period: 7/1/2014 - 6/30/2015
Wage Rate Per Hour: 80% of Journeyman's rate
Supplemental Benefit Rate Per Hour: \$30.25

(Carpenters District Council)

CEMENT MASON

(Ratio of Apprentice to Journeyman: 1 to 1, 1 to 4)

Cement Mason (First Year)

Effective Period: 7/1/2014 - 6/30/2015
Wage and Supplemental Rate Per Hour: 50% of Journeyman's Rate

Cement Mason (Second Year)

Effective Period: 7/1/2014 - 6/30/2015
Wage and Supplemental Rate Per Hour: 60% of Journeyman's Rate

Cement Mason (Third Year)

Effective Period: 7/1/2014 - 6/30/2015
Wage and Supplemental Rate Per Hour: 70% of Journeyman's Rate

(Local #780)

CEMENT AND CONCRETE WORKER

(Ratio of Apprentice to Journeyman: 1 to 1, 1 to 3)

Cement & Concrete Worker (0 - 500 hours)

Effective Period: 7/1/2014 - 6/30/2015
Wage Rate Per Hour: 50% of Journeyman's rate
Supplemental Benefit Rate Per Hour: \$18.04

Cement & Concrete Worker (501 - 1000 hours)

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 APPRENTICESHIP PREVAILING WAGE SCHEDULE

Effective Period: 7/1/2014 - 6/30/2015
Wage Rate Per Hour: 65% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: \$18.87

Cement & Concrete Worker (1001 - 2000 hours)

Effective Period: 7/1/2014 - 6/30/2015
Wage Rate Per Hour: 65% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: \$24.25

Cement & Concrete Worker (2001 - 4000 hours)

Effective Period: 7/1/2014 - 6/30/2015
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 4)

Derrickperson & Rigger (stone) - First Year

Effective Period: 7/1/2014 - 6/30/2015
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: 7/1/2014 - 6/30/2015
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: 7/1/2014 - 6/30/2015
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: 7/1/2014 - 6/30/2015
Wage Rate Per Hour: 90% of Journeyperson's rate
Supplemental Benefit Rate Per Hour: 75% of Journeyperson's rate

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
\$220 APPRENTICESHIP PREVAILING WAGE SCHEDULE

(Local #197)

DOCKBUILDER/PILE DRIVER

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 6)

Dockbuilder/Pile Driver (First Year)

Effective Period: 7/1/2014 - 6/30/2015

Wage Rate Per Hour: 40% of Journeyperson's rate

Supplemental Benefit Rate Per Hour: \$31.26

Dockbuilder/Pile Driver (Second Year)

Effective Period: 7/1/2014 - 6/30/2015

Wage Rate Per Hour: 50% of Journeyperson's rate

Supplemental Benefit Rate Per Hour: \$31.26

Dockbuilder/Pile Driver (Third Year)

Effective Period: 7/1/2014 - 6/30/2015

Wage Rate Per Hour: 65% of Journeyperson's rate

Supplemental Benefit Rate Per Hour: \$31.26

Dockbuilder/Pile Driver (Fourth Year)

Effective Period: 7/1/2014 - 6/30/2015

Wage Rate Per Hour: 80% of Journeyperson's rate

Supplemental Benefit Rate Per Hour: \$31.26

(Carpenters District Council)

ELECTRICIAN

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 3)

Electrician (First Term: 0-6 Months)

Effective Period: 7/1/2014 - 5/12/2015

Wage Rate per Hour: \$12.50

Supplemental Benefit Rate per Hour: \$11.10

Overtime Supplemental Rate Per Hour: \$11.93

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 APPRENTICESHIP PREVAILING WAGE SCHEDULE

Effective Period: 5/13/2015 - 6/30/2015

Wage Rate per Hour: \$13.00

Supplemental Benefit Rate per Hour: \$11.61

Overtime Supplemental Rate Per Hour: \$12.47

Electrician (First Term: 7-12 Months)

Effective Period: 7/1/2014 - 5/12/2015

Wage Rate per Hour: \$13.50

Supplemental Benefit Rate per Hour: \$11.62

Overtime Supplemental Rate Per Hour: \$12.51

Effective Period: 5/13/2015 - 6/30/2015

Wage Rate per Hour: \$14.00

Supplemental Benefit Rate per Hour: \$12.12

Overtime Supplemental Rate Per Hour: \$13.04

Electrician (Second Term: 0-6 Months)

Effective Period: 7/1/2014 - 5/12/2015

Wage Rate per Hour: \$14.50

Supplemental Benefit Rate per Hour: \$12.13

Overtime Supplemental Rate Per Hour: \$13.08

Effective Period: 5/13/2015 - 6/30/2015

Wage Rate per Hour: \$15.00

Supplemental Benefit Rate per Hour: \$12.63

Overtime Supplemental Rate Per Hour: \$13.62

Electrician (Second Term: 7-12 Months)

Effective Period: 7/1/2014 - 5/12/2015

Wage Rate per Hour: \$15.50

Supplemental Benefit Rate per Hour: \$12.64

Overtime Supplemental Rate Per Hour: \$13.66

Effective Period: 5/13/2015 - 6/30/2015

Wage Rate per Hour: \$16.00

Supplemental Benefit Rate per Hour: \$13.14

Overtime Supplemental Rate Per Hour: \$14.19

Electrician (Third Term: 0-6 Months)

Effective Period: 7/1/2014 - 5/12/2015

Wage Rate per Hour: \$16.50

Supplemental Benefit Rate per Hour: \$13.15

Overtime Supplemental Rate Per Hour: \$14.23

Effective Period: 5/13/2015 - 6/30/2015

Wage Rate per Hour: \$17.00

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
\$220 APPRENTICESHIP PREVAILING WAGE SCHEDULE

Supplemental Benefit Rate per Hour: \$13.65
Overtime Supplemental Rate Per Hour: \$14.77

Electrician (Third Term: 7-12 Months)

Effective Period: 7/1/2014 - 5/12/2015
Wage Rate per Hour: \$17.50
Supplemental Benefit Rate per Hour: \$13.65
Overtime Supplemental Rate Per Hour: \$14.81

Effective Period: 5/13/2015 - 6/30/2015
Wage Rate per Hour: \$18.00
Supplemental Benefit Rate per Hour: \$14.16
Overtime Supplemental Rate Per Hour: \$15.34

Electrician (Fourth Term: 0-6 Months)

Effective Period: 7/1/2014 - 5/12/2015
Wage Rate per Hour: \$18.50
Supplemental Benefit Rate per Hour: \$14.16
Overtime Supplemental Rate Per Hour: \$15.38

Effective Period: 5/13/2015 - 6/30/2015
Wage Rate per Hour: \$19.00
Supplemental Benefit Rate per Hour: \$14.67
Overtime Supplemental Rate Per Hour: \$15.92

Electrician (Fourth Term: 7-12 Months)

Effective Period: 7/1/2014 - 5/12/2015
Wage Rate per Hour: \$20.50
Supplemental Benefit Rate per Hour: \$15.18
Overtime Supplemental Rate Per Hour: \$16.53

Effective Period: 5/13/2015 - 6/30/2015
Wage Rate per Hour: \$21.00
Supplemental Benefit Rate per Hour: \$15.68
Overtime Supplemental Rate Per Hour: \$17.07

Electrician (Fifth Term: 0-12 Months - Hired on or after 5/10/07)

Effective Period: 7/1/2014 - 5/12/2015
Wage Rate per Hour: \$22.50
Supplemental Benefit Rate per Hour: \$18.06
Overtime Supplemental Rate Per Hour: \$19.47

Effective Period: 5/13/2015 - 6/30/2015
Wage Rate per Hour: \$23.00
Supplemental Benefit Rate per Hour: \$18.56
Overtime Supplemental Rate Per Hour: \$20.00

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 APPRENTICESHIP PREVAILING WAGE SCHEDULE

Electrician (Fifth Term: 13-18 Months - Hired on or after 5/10/07)

Effective Period: 7/1/2014 - 5/12/2015
Wage Rate per Hour: \$27.00
Supplemental Benefit Rate per Hour: \$20.32
Overtime Supplemental Rate Per Hour: \$22.01

Effective Period: 5/13/2015 - 6/30/2015
Wage Rate per Hour: \$27.50
Supplemental Benefit Rate per Hour: \$20.82
Overtime Supplemental Rate Per Hour: \$22.54

Electrician (Fifth Term: 0-18 Months - Hired before 5/10/07)

Effective Period: 7/1/2014 - 5/12/2015
Wage Rate per Hour: \$26.30
Supplemental Benefit Rate per Hour: \$19.96
Overtime Supplemental Rate Per Hour: \$21.61

Effective Period: 5/13/2015 - 6/30/2015
Wage Rate per Hour: \$26.80
Supplemental Benefit Rate per Hour: \$20.46
Overtime Supplemental Rate Per Hour: \$22.14

Overtime Description

Overtime Wage paid at time and one half the regular rate
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: 7/1/2014 - 3/16/2015
Wage Rate Per Hour: 50% of Journeyperson's rate
Supplemental Rate Per Hour: \$25.46

Effective Period: 3/17/2015 - 6/30/2015
Wage Rate Per Hour: 50% of Journeyperson's rate
Supplemental Rate Per Hour: \$26.94

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
\$220 APPRENTICESHIP PREVAILING WAGE SCHEDULE

Elevator (Constructor) - Second Year

Effective Period: 7/1/2014 - 3/16/2015
Wage Rate Per Hour: 55% of Journeyman's rate
Supplemental Rate Per Hour: \$25.86

Effective Period: 3/17/2015 - 6/30/2015
Wage Rate Per Hour: 55% of Journeyman's rate
Supplemental Rate Per Hour: \$27.35

Elevator (Constructor) - Third Year

Effective Period: 7/1/2014 - 3/16/2015
Wage Rate Per Hour: 65% of Journeyman's rate
Supplemental Rate Per Hour: \$26.66

Effective Period: 3/17/2015 - 6/30/2015
Wage Rate Per Hour: 65% of Journeyman's rate
Supplemental Rate Per Hour: \$28.17

Elevator (Constructor) - Fourth Year

Effective Period: 7/1/2014 - 3/16/2015
Wage Rate Per Hour: 75% of Journeyman's rate
Supplemental Rate Per Hour: \$27.46

Effective Period: 3/17/2015 - 6/30/2015
Wage Rate Per Hour: 75% of Journeyman's rate
Supplemental Rate Per Hour: \$29.00

(Local #1)

ELEVATOR REPAIR & MAINTENANCE
(Ratio of Apprentice to Journeyman: 1 to 1, 1 to 2)

Elevator Service/Modernization Mechanic (First Year)

Effective Period: 7/1/2014 - 3/16/2015
Wage Rate Per Hour: 50% of Journeyman's rate
Supplemental Benefit Per Hour: \$24.85

Effective Period: 3/17/2015 - 6/30/2015
Wage Rate Per Hour: 50% of Journeyman's rate
Supplemental Benefit Per Hour: \$26.87

Elevator Service/Modernization Mechanic (Second Year)

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 APPRENTICESHIP PREVAILING WAGE SCHEDULE

Effective Period: 7/1/2014 - 3/16/2015
Wage Rate Per Hour: 55% of Journeyperson's rate
Supplemental Benefit Per Hour: \$25.24

Effective Period: 3/17/2015 - 6/30/2015
Wage Rate Per Hour: 55% of Journeyperson's rate
Supplemental Benefit Per Hour: \$27.27

Elevator Service/Modernization Mechanic (Third Year)

Effective Period: 7/1/2014 - 3/16/2015
Wage Rate Per Hour: 65% of Journeyperson's rate
Supplemental Benefit Per Hour: \$26.02

Effective Period: 3/17/2015 - 6/30/2015
Wage Rate Per Hour: 65% of Journeyperson's rate
Supplemental Benefit Per Hour: \$28.08

Elevator Service/Modernization Mechanic (Fourth Year)

Effective Period: 7/1/2014 - 3/16/2015
Wage Rate Per Hour: 75% of Journeyperson's rate
Supplemental Benefit Per Hour: \$26.81

Effective Period: 3/17/2015 - 6/30/2015
Wage Rate Per Hour: 75% of Journeyperson's rate
Supplemental Benefit Per Hour: \$28.89

(Local #1)

ENGINEER

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 5)

Engineer - First Year

Effective Period: 7/1/2014 - 6/30/2015
Wage Rate per Hour: \$22.49
Supplemental Benefit Rate per Hour: \$20.68

Engineer - Second Year

Effective Period: 7/1/2014 - 6/30/2015
Wage Rate per Hour: \$28.11
Supplemental Benefit Rate per Hour: \$20.68

Engineer - Third Year

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
\$220 APPRENTICESHIP PREVAILING WAGE SCHEDULE

Effective Period: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$20.92

Supplemental Benefit Rate per Hour: \$20.68

Engineer - Fourth Year

Effective Period: 7/1/2014 - 6/30/2015

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: 7/1/2014 - 6/30/2015

Wage Rate Per Hour 40% of Journeyperson's Rate

Supplemental Benefit Per Hour: \$18.60

Operating Engineer - Second Year

Effective Period: 7/1/2014 - 6/30/2015

Wage Rate Per Hour: 50% of Journeyperson's Rate

Supplemental Benefit Per Hour: \$18.60

Operating Engineer - Third Year

Effective Period: 7/1/2014 - 6/30/2015

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)

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 APPRENTICESHIP PREVAILING WAGE SCHEDULE

Effective Period: 7/1/2014 - 6/30/2015
Wage Rate Per Hour: 40% of Journeyperson's rate
Supplemental Rate Per Hour: \$30.25

Floor Coverer (Second Year)

Effective Period: 7/1/2014 - 6/30/2015
Wage Rate Per Hour: 50% of Journeyperson's rate
Supplemental Rate Per Hour: \$30.25

Floor Coverer (Third Year)

Effective Period: 7/1/2014 - 6/30/2015
Wage Rate Per Hour: 65% of Journeyperson's rate
Supplemental Rate Per Hour: \$30.25

Floor Coverer (Fourth Year)

Effective Period: 7/1/2014 - 6/30/2015
Wage Rate Per Hour: 80% of Journeyperson's rate
Supplemental Rate Per Hour: \$30.25

(Carpenters District Council)

GLAZIER
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 3)

Glazier (First Year)

Effective Period: 7/1/2014 - 10/31/2014
Wage Rate Per Hour: 40% of Journeyperson's rate
Supplemental Rate Per Hour: \$12.97

Effective Period: 11/1/2014 - 6/30/2015
Wage Rate Per Hour: 40% of Journeyperson's rate
Supplemental Rate Per Hour: \$13.12

Glazier (Second Year)

Effective Period: 7/1/2014 - 6/30/2015
Wage Rate Per Hour: 50% of Journeyperson's rate
Supplemental Rate Per Hour: \$22.25

Glazier (Third Year)

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 APPRENTICESHIP PREVAILING WAGE SCHEDULE

Effective Period: 7/1/2014 - 10/31/2014
Wage Rate Per Hour: 60% of Journeyperson's rate
Supplemental Rate Per Hour: \$24.75

Effective Period: 11/1/2014 - 6/30/2015
Wage Rate Per Hour: 60% of Journeyperson's rate
Supplemental Rate Per Hour: \$25.10

Glazier (Fourth Year)

Effective Period: 7/1/2014 - 10/31/2014
Wage Rate Per Hour: 80% of Journeyperson's rate
Supplemental Rate Per Hour: \$29.87

Effective Period: 11/1/2014 - 6/30/2015
Wage Rate Per Hour: 80% of Journeyperson's rate
Supplemental Rate Per Hour: \$30.02

(Local #1281)

HEAT & FROST INSULATOR
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 4)

Heat & Frost Insulator (First Year)

Effective Period: 7/1/2014 - 6/30/2015
Wage and Supplemental Rate Per Hour: 40% of Journeyperson's rate

Heat & Frost Insulator (Second Year)

Effective Period: 7/1/2014 - 6/30/2015
Wage and Supplemental Rate Per Hour: 60% of Journeyperson's rate

Heat & Frost Insulator (Third Year)

Effective Period: 7/1/2014 - 6/30/2015
Wage and Supplemental Rate Per Hour: 70% of Journeyperson's rate

Heat & Frost Insulator (Fourth Year)

Effective Period: 7/1/2014 - 6/30/2015
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: 7/1/2014 - 6/30/2015
Wage Rate per Hour: \$20.52
Supplemental Benefit Rate per Hour: \$16.60

House Wrecker - Second Year

Effective Period: 7/1/2014 - 6/30/2015
Wage Rate per Hour: \$21.67
Supplemental Benefit Rate per Hour: \$16.60

House Wrecker - Third Year

Effective Period: 7/1/2014 - 6/30/2015
Wage Rate per Hour: \$23.27
Supplemental Benefit Rate per Hour: \$16.60

House Wrecker - Fourth Year

Effective Period: 7/1/2014 - 6/30/2015
Wage Rate per Hour: \$25.83
Supplemental Benefit Rate per Hour: \$16.60

(Mason Tenders District Council)

**IRON WORKER - ORNAMENTAL
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 4)**

Iron Worker (Ornamental) - 1st Ten Months

Effective Period: 7/1/2014 - 6/30/2015
Wage Rate Per Hour: 50% of Journeyperson's rate
Supplemental Rate Per Hour: \$35.15

Iron Worker (Ornamental) - 11 -16 Months

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
\$220 APPRENTICESHIP PREVAILING WAGE SCHEDULE

Effective Period: 7/1/2014 - 6/30/2015
Wage Rate Per Hour: 55% of Journeyperson's rate
Supplemental Rate Per Hour: \$36.21

Iron Worker (Ornamental) - 17 - 22 Months

Effective Period: 7/1/2014 - 6/30/2015
Wage Rate Per Hour: 60% of Journeyperson's rate
Supplemental Rate Per Hour: \$37.27

Iron Worker (Ornamental) - 23 - 28 Months

Effective Period: 7/1/2014 - 6/30/2015
Wage Rate Per Hour: 70% of Journeyperson's rate
Supplemental Rate Per Hour: \$39.40

Iron Worker (Ornamental) - 29 - 36 Months

Effective Period: 7/1/2014 - 6/30/2015
Wage Rate Per Hour: 80% of Journeyperson's rate
Supplemental Rate Per Hour: \$41.52

(Local #580)

IRON WORKER - STRUCTURAL
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 6)

Iron Worker (Structural) - 1st Six Months

Effective Period: 7/1/2014 - 6/30/2015
Wage Rate per Hour: \$24.98
Supplemental Benefit Rate per Hour: \$45.53

Iron Worker (Structural) - 7- 18 Months

Effective Period: 7/1/2014 - 6/30/2015
Wage Rate per Hour: \$25.58
Supplemental Benefit Rate per Hour: \$45.53

Iron Worker (Structural) - 19 - 36 months

Effective Period: 7/1/2014 - 6/30/2015
Wage Rate per Hour: \$26.18
Supplemental Benefit Rate per Hour: \$45.53

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 APPRENTICESHIP PREVAILING WAGE SCHEDULE

(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: 7/1/2014 - 6/30/2015
Wage Rate Per Hour: 50% of Journeyperson's rate
Supplemental Rate Per Hour: \$34.88

Laborer (Foundation, Concrete, Excavating, Street Pipe Layer & Common) - Second 1000 hours

Effective Period: 7/1/2014 - 6/30/2015
Wage Rate Per Hour: 60% of Journeyperson's rate
Supplemental Rate Per Hour: \$34.88

Laborer (Foundation, Concrete, Excavating, Street Pipe Layer & Common) - Third 1000 hours

Effective Period: 7/1/2014 - 6/30/2015
Wage Rate Per Hour: 75% of Journeyperson's rate
Supplemental Rate Per Hour: \$34.88

Laborer (Foundation, Concrete, Excavating, Street Pipe Layer & Common) - Fourth 1000 hours

Effective Period: 7/1/2014 - 6/30/2015
Wage Rate Per Hour: 90% of Journeyperson's rate
Supplemental Rate Per Hour: \$34.88

(Local #731)

MARBLE MECHANICS

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 4)

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
\$220 APPRENTICESHIP PREVAILING WAGE SCHEDULE

Cutters & Setters - First 750 Hours

Effective Period: 7/1/2014 - 6/30/2015

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: 7/1/2014 - 6/30/2015

Wage and Supplemental Rate Per Hour: 55% of Journeyperson's rate

Cutters & Setters - Third 750 Hours

Effective Period: 7/1/2014 - 6/30/2015

Wage and Supplemental Rate Per Hour: 65% of Journeyperson's rate

Cutters & Setters - Fourth 750 Hours

Effective Period: 7/1/2014 - 6/30/2015

Wage and Supplemental Rate Per Hour: 75% of Journeyperson's rate

Cutters & Setters - Fifth 750 Hours

Effective Period: 7/1/2014 - 6/30/2015

Wage and Supplemental Rate Per Hour: 85% of Journeyperson's rate

Cutters & Setters - Sixth 750 Hours

Effective Period: 7/1/2014 - 6/30/2015

Wage and Supplemental Rate Per Hour: 95% of Journeyperson's rate

Polishers & Finishers - First 750 Hours

Effective Period: 7/1/2014 - 6/30/2015

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: 7/1/2014 - 6/30/2015

Wage and Supplemental Rate Per Hour: 60% of Journeyperson's rate

Polishers & Finishers - Third 750 Hours

Effective Period: 7/1/2014 - 6/30/2015

Wage and Supplemental Rate Per Hour: 75% of Journeyperson's rate

Polishers & Finishers - Fourth 750 Hours

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
\$220 APPRENTICESHIP PREVAILING WAGE SCHEDULE

Effective Period: 7/1/2014 - 6/30/2015

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: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$20.99

Supplemental Benefit Rate per Hour: \$17.86

Mason Tender - Second Year

Effective Period: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$22.14

Supplemental Benefit Rate per Hour: \$17.86

Mason Tender - Third Year

Effective Period: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$23.84

Supplemental Benefit Rate per Hour: \$17.86

Mason Tender - Fourth Year

Effective Period: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$26.50

Supplemental Benefit Rate per Hour: \$17.86

(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)

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
\$220 APPRENTICESHIP PREVAILING WAGE SCHEDULE

Effective Period: 7/1/2014 - 6/30/2015

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: 7/1/2014 - 6/30/2015

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: 7/1/2014 - 6/30/2015

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: 7/1/2014 - 6/30/2015

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: 7/1/2014 - 6/30/2015

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: 7/1/2014 - 6/30/2015

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: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$26.64

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 APPRENTICESHIP PREVAILING WAGE SCHEDULE

Supplemental Benefit Rate per Hour: \$32.84

Millwright (Second Year)

Effective Period: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$31.49

Supplemental Benefit Rate per Hour: \$36.18

Millwright (Third Year)

Effective Period: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$36.33

Supplemental Benefit Rate per Hour: \$40.66

Millwright (Fourth Year)

Effective Period: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$46.02

Supplemental Benefit Rate per Hour: \$46.24

(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: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$26.61

Supplemental Benefit Rate per Hour: \$16.50

Paver and Roadbuilder - Second Year (Minimum 1000 hours)

Effective Period: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$28.22

Supplemental Benefit Rate per Hour: \$16.50

(Local #1010)

PAINTER

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 3)

Painter - Brush & Roller - First Year

Effective Period: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$15.80

Supplemental Benefit Rate per Hour: \$11.88

Painter - Brush & Roller - Second Year

Effective Period: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$19.75

Supplemental Benefit Rate per Hour: \$15.73

Painter - Brush & Roller - Third Year

Effective Period: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$23.70

Supplemental Benefit Rate per Hour: \$18.64

Painter - Brush & Roller - Fourth Year

Effective Period: 7/1/2014 - 6/30/2015

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: 7/1/2014 - 6/30/2015

Wage and Supplemental Rate Per Hour: 40% of Journeyperson's rate

Painters - Structural Steel (Second Year)

Effective Period: 7/1/2014 - 6/30/2015

Wage and Supplemental Rate Per Hour: 60% of Journeyperson's rate

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 APPRENTICESHIP PREVAILING WAGE SCHEDULE

Painters - Structural Steel (Third Year)

Effective Period: 7/1/2014 - 6/30/2015
Wage and Supplemental Rate Per Hour: 80% of Journeyman's rate

(Local #806)

PLASTERER
(Ratio of Apprentice to Journeyman: 1 to 1, 1 to 3)

Plasterer - First Year: 1st Six Months

Effective Period: 7/1/2014 - 6/30/2015
Wage Rate Per Hour: 40% of Journeyman's rate
Supplemental Rate Per Hour: \$15.76

Plasterer - First Year: 2nd Six Months

Effective Period: 7/1/2014 - 6/30/2015
Wage Rate Per Hour: 45% of Journeyman's rate
Supplemental Rate Per Hour: \$16.24

Plasterer - Second Year: 1st Six Months

Effective Period: 7/1/2014 - 6/30/2015
Wage Rate Per Hour: 55% of Journeyman's rate
Supplemental Rate Per Hour: \$18.21

Plasterer - Second Year: 2nd Six Months

Effective Period: 7/1/2014 - 6/30/2015
Wage Rate Per Hour: 60% of Journeyman's rate
Supplemental Rate Per Hour: \$19.29

Plasterer - Third Year: 1st Six Months

Effective Period: 7/1/2014 - 6/30/2015
Wage Rate Per Hour: 70% of Journeyman's rate
Supplemental Rate Per Hour: \$21.46

Plasterer - Third Year: 2nd Six Months

Effective Period: 7/1/2014 - 6/30/2015
Wage Rate Per Hour: 75% of Journeyman's rate
Supplemental Rate Per Hour: \$22.54

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 APPRENTICESHIP PREVAILING WAGE SCHEDULE

(Local #530)

PLUMBER

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 3)

Plumber - First Year: 1st Six Months

Effective Period: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$14.00

Supplemental Benefit Rate per Hour: \$0.71

Plumber - First Year: 2nd Six Months

Effective Period: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$14.00

Supplemental Benefit Rate per Hour: \$2.96

Plumber - Second Year

Effective Period: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$23.87

Supplemental Benefit Rate per Hour: \$11.46

Plumber - Third Year

Effective Period: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$25.97

Supplemental Benefit Rate per Hour: \$11.46

Plumber - Fourth Year

Effective Period: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$28.82

Supplemental Benefit Rate per Hour: \$11.46

Plumber - Fifth Year: 1st Six Months

Effective Period: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$30.22

Supplemental Benefit Rate per Hour: \$11.46

Plumber - Fifth Year: 2nd Six Months

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 APPRENTICESHIP PREVAILING WAGE SCHEDULE

Effective Period: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$42.29

Supplemental Benefit Rate per Hour: \$11.46

(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: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$25.01

Supplemental Benefit Rate per Hour: \$4.75

Pointer - Waterproofer, Caulker Mechanic - Second Year

Effective Period: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$27.25

Supplemental Benefit Rate per Hour: \$9.70

Pointer - Waterproofer, Caulker Mechanic - Third Year

Effective Period: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$32.24

Supplemental Benefit Rate per Hour: \$12.45

Pointer - Waterproofer, Caulker Mechanic - Fourth Year

Effective Period: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$38.66

Supplemental Benefit Rate per Hour: \$12.45

(Bricklayer District Council)

ROOFER

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 2)

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
\$220 APPRENTICESHIP PREVAILING WAGE SCHEDULE

Roofer - First Year

Effective Period: 7/1/2014 - 6/30/2015

Wage and Supplemental Rate Per Hour: 35% of Journeyman's Rate

Roofer - Second Year

Effective Period: 7/1/2014 - 6/30/2015

Wage and Supplemental Rate Per Hour: 50% of Journeyman's Rate

Roofer - Third Year

Effective Period: 7/1/2014 - 6/30/2015

Wage and Supplemental Rate Per Hour: 60% of Journeyman's Rate

Roofer - Fourth Year

Effective Period: 7/1/2014 - 6/30/2015

Wage and Supplemental Rate Per Hour: 75% of Journeyman's Rate

(Local #8)

SHEET METAL WORKER

(Ratio of Apprentice to Journeyman: 1 to 1, 1 to 3)

Sheet Metal Worker (0-6 Months)

Effective Period: 7/1/2014 - 6/30/2015

Wage Rate Per Hour: 25% of Journeyman's rate

Supplemental Rate Per Hour: \$6.15

Sheet Metal Worker (7-18 Months)

Effective Period: 7/1/2014 - 6/30/2015

Wage Rate Per Hour: 35% of Journeyman's rate

Supplemental Rate Per Hour: \$16.21

Sheet Metal Worker (19-30 Months)

Effective Period: 7/1/2014 - 6/30/2015

Wage Rate Per Hour: 45% of Journeyman's rate

Supplemental Rate Per Hour: \$22.23

Sheet Metal Worker (31-36 Months)

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 APPRENTICESHIP PREVAILING WAGE SCHEDULE

Effective Period: 7/1/2014 - 6/30/2015
Wage Rate Per Hour: 55% of Journeyperson's rate
Supplemental Rate Per Hour: \$26.16

Sheet Metal Worker (37-42 Months)

Effective Period: 7/1/2014 - 6/30/2015
Wage Rate Per Hour: 60% of Journeyperson's rate
Supplemental Rate Per Hour: \$28.13

Sheet Metal Worker (43-48 Months)

Effective Period: 7/1/2014 - 6/30/2015
Wage Rate Per Hour: 70% of Journeyperson's rate
Supplemental Rate Per Hour: \$32.09

Sheet Metal Worker (49-54 Months)

Effective Period: 7/1/2014 - 6/30/2015
Wage Rate Per Hour: 75% of Journeyperson's rate
Supplemental Rate Per Hour: \$34.07

Sheet Metal Worker (55-60 Months)

Effective Period: 7/1/2014 - 6/30/2015
Wage Rate Per Hour: 80% of Journeyperson's rate
Supplemental Rate Per Hour: \$36.03

(Local #28)

SIGN ERECTOR

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 4)

Sign Erector - First Year: 1st Six Months

Effective Period: 7/1/2014 - 6/30/2015
Wage Rate Per Hour: 35% of Journeyperson's rate
Supplemental Rate Per Hour: \$5.96

Sign Erector - First Year: 2nd Six Months

Effective Period: 7/1/2014 - 6/30/2015
Wage Rate Per Hour: 40% of Journeyperson's rate
Supplemental Rate Per Hour: \$6.75

Sign Erector - Second Year: 1st Six Months

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
\$220 APPRENTICESHIP PREVAILING WAGE SCHEDULE

Effective Period: 7/1/2014 - 6/30/2015
Wage Rate Per Hour: 45% of Journeyperson's rate
Supplemental Rate Per Hour: \$7.55

Sign Erector - Second Year: 2nd Six Months

Effective Period: 7/1/2014 - 6/30/2015
Wage Rate Per Hour: 50% of Journeyperson's rate
Supplemental Rate Per Hour: \$8.34

Sign Erector - Third Year: 1st Six Months

Effective Period: 7/1/2014 - 6/30/2015
Wage Rate Per Hour: 55% of Journeyperson's rate
Supplemental Rate Per Hour: \$9.13

Sign Erector - Third Year: 2nd Six Months

Effective Period: 7/1/2014 - 6/30/2015
Wage Rate Per Hour: 60% of Journeyperson's rate
Supplemental Rate Per Hour: \$9.92

Sign Erector - Fourth Year: 1st Six Months

Effective Period: 7/1/2014 - 6/30/2015
Wage Rate Per Hour: 65% of Journeyperson's rate
Supplemental Rate Per Hour: \$10.72

Sign Erector - Fourth Year: 2nd Six Months

Effective Period: 7/1/2014 - 6/30/2015
Wage Rate Per Hour: 70% of Journeyperson's rate
Supplemental Rate Per Hour: \$11.51

Sign Erector - Fifth Year

Effective Period: 7/1/2014 - 6/30/2015
Wage Rate Per Hour: 75% of Journeyperson's rate
Supplemental Rate Per Hour: \$12.30

Sign Erector - Sixth Year

Effective Period: 7/1/2014 - 6/30/2015
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: 7/1/2014 - 6/30/2015

Wage Rate and Supplemental Per Hour: 40% of Journeyperson's rate

Steamfitter - Second Year

Effective Period: 7/1/2014 - 6/30/2015

Wage Rate and Supplemental Rate Per Hour: 50% of Journeyperson's rate.

Steamfitter - Third Year

Effective Period: 7/1/2014 - 6/30/2015

Wage Rate and Supplemental Rate per Hour: 65% of Journeyperson's rate.

Steamfitter - Fourth Year

Effective Period: 7/1/2014 - 6/30/2015

Wage Rate and Supplemental Rate Per Hour: 80% of Journeyperson's rate.

Steamfitter - Fifth Year

Effective Period: 7/1/2014 - 6/30/2015

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: 7/1/2014 - 6/30/2015

Wage and Supplemental Rate Per Hour: 50% of Journeyperson's rate

Stone Mason - Setters - Second 750 Hours

Effective Period: 7/1/2014 - 6/30/2015

Wage Rate Per Hour: 60% of Journeyperson's rate

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 APPRENTICESHIP PREVAILING WAGE SCHEDULE

Supplemental Rate Per Hour: 50% of Journeyperson's rate

Stone Mason - Setters - Third 750 Hours

Effective Period: 7/1/2014 - 6/30/2015

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: 7/1/2014 - 6/30/2015

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: 7/1/2014 - 6/30/2015

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: 7/1/2014 - 6/30/2015

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: 7/1/2014 - 6/30/2015

Wage and Supplemental Rate Per Hour: 40% of Journeyperson's rate

Drywall Taper - Second Year

Effective Period: 7/1/2014 - 6/30/2015

Wage and Supplemental Rate Per Hour: 60% of Journeyperson's rate

Drywall Taper - Third Year

Effective Period: 7/1/2014 - 6/30/2015

Wage and Supplemental Rate Per Hour: 80% of Journeyperson's rate

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§220 APPRENTICESHIP PREVAILING WAGE SCHEDULE

(Local #1974)

TILE LAYER - SETTER
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 4)

Tile Layer - Setter - First 750 Hours

Effective Period: 7/1/2014 - 6/30/2015
Wage and Supplemental Rate Per Hour: 50% of Journeyperson's rate

Tile Layer - Setter - Second 750 Hours

Effective Period: 7/1/2014 - 6/30/2015
Wage and Supplemental Rate Per Hour: 55% of Journeyperson's rate

Tile Layer - Setter - Third 750 Hours

Effective Period: 7/1/2014 - 6/30/2015
Wage and Supplemental Rate Per Hour: 65% of Journeyperson's rate

Tile Layer - Setter - Fourth 750 Hours

Effective Period: 7/1/2014 - 6/30/2015
Wage and Supplemental Rate Per Hour: 75% of Journeyperson's rate

Tile Layer - Setter - Fifth 750 Hours

Effective Period: 7/1/2014 - 6/30/2015
Wage and Supplemental Rate Per Hour: 85% of Journeyperson's rate

Tile Layer - Setter - Sixth 750 Hours

Effective Period: 7/1/2014 - 6/30/2015
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)

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
\$220 APPRENTICESHIP PREVAILING WAGE SCHEDULE

Timberperson - First Year

Effective Period: 7/1/2014 - 6/30/2015
Wage Rate Per Hour: 40% of Journeyperson's rate
Supplemental Rate Per Hour: \$30.89

Timberperson - Second Year

Effective Period: 7/1/2014 - 6/30/2015
Wage Rate Per Hour: 50% of Journeyperson's rate
Supplemental Rate Per Hour: \$30.89

Timberperson - Third Year

Effective Period: 7/1/2014 - 6/30/2015
Wage Rate Per Hour: 65% of Journeyperson's rate
Supplemental Rate Per Hour: \$30.89

Timberperson - Fourth Year

Effective Period: 7/1/2014 - 6/30/2015
Wage Rate Per Hour: 80% of Journeyperson's rate
Supplemental Rate Per Hour: \$30.89

(Local #1536)

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§230 PREVAILING WAGE SCHEDULE

LABOR LAW §230 AND
NYC ADMINISTRATIVE CODE §6-130 BUILDING SERVICE EMPLOYEES

PREVAILING WAGE FOR BUILDING SERVICE EMPLOYEES ON NYC CONTRACTS PURSUANT
TO LABOR LAW §230 ET SEQ.

Building service employees on public contracts must receive not less than the prevailing rate of wage and supplements for the classification of work performed. In accordance with Labor Law §230 et seq. the Comptroller of the City of New York has promulgated this schedule of prevailing wages and supplemental benefits for building service employees engaged on New York City public building service contracts in excess of \$1,500.00. Prevailing rates are required to be annexed to and form part of the contract pursuant to §231 (4).

This schedule is a compilation of separate determinations of the prevailing rate of wage and supplements made by the Comptroller for each trade classification listed herein pursuant to New York State Labor Law section 234 (1). The source of the wage and supplement rates, whether a collective bargaining agreement, survey data or other, is listed at the end of each classification.

Agency Chief Contracting Officers should contact the Bureau of Labor Law's Classification Unit with any questions concerning trade classifications, prevailing rates or prevailing practices with respect to procurement on New York City building services contracts. Contractors are advised to review the Comptroller's Prevailing Wage Schedule before bidding on building services contracts. Contractors with questions concerning trade classifications, prevailing rates or prevailing practices with respect to building services contracts in the procurement stage must contact the contracting agency responsible for the procurement.

Any error as to compensation under the prevailing wage law or other information as to trade classification, made by the contracting agency in the contract documents or in any other communication, will not preclude a finding against the contractor of prevailing wage violation.

Any questions concerning trade classifications, prevailing rates or prevailing practices on New York City building services contracts that have already been awarded may be directed to the Bureau of Labor Law's Classification Unit by calling (212) 669-7974. All callers must have the agency name and contract registration number available when calling with questions on building services contracts. Please direct all other compliance issues to: Bureau of Labor Law, Attn: Wasyl Kinach, P.E., Office of the Comptroller, 1 Centre Street, Room 1122, New York, N.Y. 10007; Fax (212) 669-4002.

PREVAILING WAGE FOR BUILDING SERVICE EMPLOYEES IN NEW YORK CITY LEASED OR
FINANCIALLY ASSISTED FACILITIES PURSUANT TO NYC ADMINISTRATIVE CODE § 6-130

Covered landlords & covered financial assistance recipients shall ensure that all building service employees performing building service work at the premises to which a lease or financial assistance pertains are paid no less than the prevailing wage listed in the Labor Law §230 Prevailing Wage Schedule.

Covered Landlords include:

Businesses (other than not-for-profit organizations) leasing to New York City agencies

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§230 PREVAILING WAGE SCHEDULE

commercial office space or commercial office facilities of 10,000 square feet or more where the City leases or rents no less than 51% of the total square footage of the building to which the lease applies (no less than 80% in Staten Island or in an area not defined as an exclusion area pursuant to section 421-a of the real property tax law on the date of enactment of the local law).

Covered Financial Assistance Recipients include:

Businesses (other than not-for-profit organizations) with annual gross revenues of five million dollars or more who have received financial assistance from the City of New York (as defined in New York City Administrative Code §6-130) with a total value of one million dollars or more.

Exemptions: Business Improvement Districts and employers with manufacturing operations at the premises to which the financial assistance pertains.

The information is intended to assist you in meeting your prevailing wage obligation. You should consult New York City Administrative Code §6-130 to determine whether you are covered by this prevailing wage law. New York City Administrative Code § 6-130 requires the City to maintain an updated list of covered landlords and financial assistance recipients who are subject to the prevailing wage requirement.

Labor Law § 231 (6) and NYC Administrative Law §6-130 requires contractors to post on the site of the work a current copy of this schedule of wages and supplements.

This schedule is applicable to work performed during the effective period, unless otherwise noted. Changes to this schedule are published on our web site www.comptroller.nyc.gov. Contractors must pay the wages and supplements in effect when the building service employee performs the work. Preliminary schedules for future one-year periods appear in the City Record on or about June 1 each succeeding year. Final schedules appear on or about July 1 in the City Record and on our web site www.comptroller.nyc.gov.

Contractors are solely responsible for maintaining original payroll records delineating, among other things, the hours worked by each employee within a given classification.

Some of the rates in this schedule are based on collective bargaining agreements. 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.

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.

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§230 PREVAILING WAGE SCHEDULE

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.

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§230 PREVAILING WAGE SCHEDULE



THE CITY OF NEW YORK
OFFICE OF THE COMPTROLLER
BUREAU OF LABOR LAW
1 CENTRE STREET
NEW YORK, NY 10007

SCOTT M. STRINGER
COMPTROLLER

If you are a Covered Building Service Employee and you have been paid less than the Prevailing Wage and Benefits, please contact us at 212-669-4443 or download our complaint form from our website at WWW.COMPTROLLER.NYC.GOV (click on the Bureau of Labor Law).

Si es un empleado de servicios a edificios elegible y recibió menos del sueldo prevalente y beneficios, por favor contáctenos en 212-669-4443 o descarga un formulario de reclamo del sitio del Internet WWW.COMPTROLLER.NYC.GOV (oprime "Oficina de Derecho Laboral").

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

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§230 PREVAILING WAGE SCHEDULE

TABLE OF CONTENTS

<u>CLASSIFICATION</u>	<u>PAGE</u>
BOILER SERVICEPERSON/TANK CLEANER MECHANIC (LOW PRESSURE).....	6
BUILDING CLEANER AND MAINTAINER (OFFICE).....	6
BUILDING CLEANER AND MAINTAINER (RESIDENTIAL).....	11
BUILDING HVAC SERVICES OPERATOR.....	12
CLEANER (PARKING GARAGE).....	13
FUEL OIL	13
GARDENER	15
LOCKSMITH	16
MEDICAL WASTE REMOVAL.....	16
MOVER - OFFICE FURNITURE AND EQUIPMENT.....	17
REFUSE REMOVER	18
SECURITY GUARD (ARMED)	18
SECURITY GUARD (UNARMED).....	20
WINDOW CLEANER.....	22

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
\$230 PREVAILING WAGE SCHEDULE

BOILER SERVICEPERSON/TANK CLEANER MECHANIC (LOW PRESSURE)

Boiler Service Person/Tank Cleaner Mechanic (Low Pressure)

Effective Period: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$11.00

Supplemental Benefit Rate per Hour: \$7.15

Overtime Description

Work in excess of 8 hours performed on a Sunday or Holiday shall be paid two and one half times the regular rate.

Overtime

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

Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

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

Paid Holidays

New Year's Day

Martin Luther King Jr. Day

President's Day

Good Friday

Memorial Day

Independence Day

Labor Day

Columbus Day

Thanksgiving Day

Day after Thanksgiving

Christmas Day

Employee's Birthday

Vacation

1 year service.....five (5) days

3 years service or more.....ten (10) days

8 years service or more.....fifteen (15) days

13 years service or more.....twenty (20) days

SICK LEAVE:

1-2 years employment.....4 days

2-3 years employment.....5 days

3-4 years employment.....6 days

4-5 years employment.....8 days

6 years or more employment.....10 days

(Local #32 B/J)

BUILDING CLEANER AND MAINTAINER (OFFICE)

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§230 PREVAILING WAGE SCHEDULE

Office Building Class "A" Handyperson (Over 280,000 square feet gross area)

Effective Period: 7/1/2014 - 12/31/2014

Wage Rate per Hour: \$25.65

Supplemental Benefit Rate per Hour: \$9.91

Supplemental Note: for new employee 0-3 months of employment - \$0.00

Effective Period: 1/1/2015 - 6/30/2015

Wage Rate per Hour: \$26.20

Supplemental Benefit Rate per Hour: \$10.46

Supplemental Note: for new employee 0-3 months of employment - \$0.00

Office Building Class "A" Foreperson, Starter (Over 280,000 square feet gross area)

Effective Period: 7/1/2014 - 12/31/2014

Wage Rate per Hour: \$25.54

Supplemental Benefit Rate per Hour: \$9.91

Supplemental Note: for new employee 0-3 months of employment - \$0.00

Effective Period: 1/1/2015 - 6/30/2015

Wage Rate per Hour: \$26.09

Supplemental Benefit Rate per Hour: \$10.46

Supplemental Note: for new employee 0-3 months of employment - \$0.00

Office Building Class "A" Cleaner/Porter, Elevator Operator, Exterminator, Fire Safety Director (Over 280,000 square feet gross area)

Effective Period: 7/1/2014 - 12/31/2014

Wage Rate per Hour: \$23.42

Supplemental Benefit Rate per Hour: \$9.91

Supplemental Note: for new employee 0-3 months of employment - \$0.00; for new employee 4-12 months of employment - \$7.22; for new employee 13-24 months of employment - \$9.58

NEW HIRE: Cleaner/Porter, Elevator Operator, Exterminator, Fire Safety Director may be paid 75% of the wage rate above for the first 21 months of employment, 85% of the wage rate above for the 22nd through 42nd months of employment, and upon the completion of 42 months of employment employee shall be paid the full wage rate. Note: New Hires hired before January 1, 2012 will continue to receive 80% of the wage rate above for the first 30 months, and upon the completion of 30 months of employment employee shall be paid the full wage rate. Upon completion of two years of employment the new hire receives the full supplemental benefit rate.

Effective Period: 1/1/2015 - 6/30/2015

Wage Rate per Hour: \$23.92

Supplemental Benefit Rate per Hour: \$10.46

Supplemental Note: for new employee 0-3 months of employment - \$0.00; for new employee 4-12 months of employment - \$7.67; for new employee 13-24 months of employment - \$10.13

NEW HIRE: Cleaner/Porter, Elevator Operator, Exterminator, Fire Safety Director may be paid 75% of the wage rate above for the first 21 months of employment, 85% of the wage rate above for the 22nd through 42nd months of employment, and upon the completion of 42 months of employment employee shall be paid the full wage rate.

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
\$230 PREVAILING WAGE SCHEDULE

Note: New Hires hired before January 1, 2012 will continue to receive 80% of the wage rate above for the first 30 months, and upon the completion of 30 months of employment employee shall be paid the full wage rate. Upon completion of two years of employment the new hire receives the full supplemental benefit rate.

Office Building Class "B" Handyperson (Over 120,000 and less than 280,000 square feet gross area)

Effective Period: 7/1/2014 - 12/31/2014

Wage Rate per Hour: \$25.62

Supplemental Benefit Rate per Hour: \$9.91

Supplemental Note: for new employee 0-3 months of employment - \$0.00

Effective Period: 1/1/2015 - 6/30/2015

Wage Rate per Hour: \$26.17

Supplemental Benefit Rate per Hour: \$10.46

Supplemental Note: for new employee 0-3 months of employment - \$0.00

Office Building Class "B" Foreperson, Starter (Over 120,000 and less than 280,000 square feet gross area)

Effective Period: 7/1/2014 - 12/31/2014

Wage Rate per Hour: \$25.50

Supplemental Benefit Rate per Hour: \$9.91

Supplemental Note: for new employee 0-3 months of employment - \$0.00

Effective Period: 1/1/2015 - 6/30/2015

Wage Rate per Hour: \$26.05

Supplemental Benefit Rate per Hour: \$10.46

Supplemental Note: for new employee 0-3 months of employment - \$0.00

Office Building Class "B" Cleaner/Porter, Elevator Operator, Exterminator, Fire Safety Director (Over 120,000 and less than 280,000 square feet gross area)

Effective Period: 7/1/2014 - 12/31/2014

Wage Rate per Hour: \$23.39

Supplemental Benefit Rate per Hour: \$9.91

Supplemental Note: for new employee 0-3 months of employment - \$0.00; for new employee 4-12 months of employment - \$7.22; for new employee 13-24 months of employment - \$9.58

NEW HIRE: Cleaner/Porter, Elevator Operator, Exterminator, Fire Safety Director may be paid 75% of the wage rate above for the first 21 months of employment, 85% of the wage rate above for the 22nd through 42nd months of employment, and upon the completion of 42 months of employment employee shall be paid the full wage rate. Note: New Hires hired before January 1, 2012 will continue to receive 80% of the wage rate above for the first 30 months, and upon the completion of 30 months of employment employee shall be paid the full wage rate. Upon completion of two years of employment the new hire receives the full supplemental benefit rate.

Effective Period: 1/1/2015 - 6/30/2015

Wage Rate per Hour: \$23.89

Supplemental Benefit Rate per Hour: \$10.46

Supplemental Note: for new employee 0-3 months of employment - \$0.00; for new employee 4-12 months of employment - \$7.67; for new employee 13-24 months of employment - \$10.13

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§230 PREVAILING WAGE SCHEDULE

NEW HIRE: Cleaner/Porter, Elevator Operator, Exterminator, Fire Safety Director may be paid 75% of the wage rate above for the first 21 months of employment, 85% of the wage rate above for the 22nd through 42nd months of employment, and upon the completion of 42 months of employment employee shall be paid the full wage rate. Note: New Hires hired before January 1, 2012 will continue to receive 80% of the wage rate above for the first 30 months, and upon the completion of 30 months of employment employee shall be paid the full wage rate. Upon completion of two years of employment the new hire receives the full supplemental benefit rate.

Office Building Class "C" Handyperson (Less than 120,000 square feet gross area)

Effective Period: 7/1/2014 - 12/31/2014

Wage Rate per Hour: \$25.57

Supplemental Benefit Rate per Hour: \$9.91

Supplemental Note: for new employee 0-3 months of employment - \$0.00

Effective Period: 1/1/2015 - 6/30/2015

Wage Rate per Hour: \$26.12

Supplemental Benefit Rate per Hour: \$10.46

Supplemental Note: for new employee 0-3 months of employment - \$0.00

Office Building Class "C" Foreperson, Starter (Less than 120,000 square feet gross area)

Effective Period: 7/1/2014 - 12/31/2014

Wage Rate per Hour: \$25.46

Supplemental Benefit Rate per Hour: \$9.91

Supplemental Note: for new employee 0-3 months of employment - \$0.00

Effective Period: 1/1/2015 - 6/30/2015

Wage Rate per Hour: \$26.01

Supplemental Benefit Rate per Hour: \$10.46

Supplemental Note: for new employee 0-3 months of employment - \$0.00

Office Building Class "C" Cleaner/Porter, Elevator Operator, Exterminator, Fire Safety Director (Less than 120,000 square feet gross area)

Effective Period: 7/1/2014 - 12/31/2014

Wage Rate per Hour: \$23.35

Supplemental Benefit Rate per Hour: \$9.91

Supplemental Note: for new employee 0-3 months of employment - \$0.00; for new employee 4-12 months of employment - \$7.22; for new employee 13-24 months of employment - \$9.58

NEW HIRE: Cleaner/Porter, Elevator Operator, Exterminator, Fire Safety Director may be paid 75% of the wage rate above for the first 21 months of employment, 85% of the wage rate above for the 22nd through 42nd months of employment, and upon the completion of 42 months of employment employee shall be paid the full wage rate. Note: New Hires hired before January 1, 2012 will continue to receive 80% of the wage rate above for the first 30 months, and upon the completion of 30 months of employment employee shall be paid the full wage rate. Upon completion of two years of employment the new hire receives the full supplemental benefit rate.

Effective Period: 1/1/2015 - 6/30/2015

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
\$230 PREVAILING WAGE SCHEDULE

Wage Rate per Hour: \$23.85

Supplemental Benefit Rate per Hour: \$10.46

Supplemental Note: for new employee 0-3 months of employment - \$0.00; for new employee 4-12 months of employment - \$7.67; for new employee 13-24 months of employment - \$10.13

NEW HIRE: Cleaner/Porter, Elevator Operator, Exterminator, Fire Safety Director may be paid 75% of the wage rate above for the first 21 months of employment, 85% of the wage rate above for the 22nd through 42nd months of employment, and upon the completion of 42 months of employment employee shall be paid the full wage rate. Note: New Hires hired before January 1, 2012 will continue to receive 80% of the wage rate above for the first 30 months, and upon the completion of 30 months of employment employee shall be paid the full wage rate. Upon completion of two years of employment the new hire receives the full supplemental benefit rate.

Months of employment shall be defined as an Employee's length of service with the Employer or at the Facility, whichever is greater.

Overtime Description

Supplemental Benefits shall be paid for each hour paid, up to forty (40) paid hours per week.

Overtime

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

Time and one half the regular rate for work on a holiday plus the day's pay.

Time and one half the regular hourly rate after 40 hours in any work week.

Paid Holidays

New Year's Day
President's Day
Good Friday
Memorial Day
Independence Day
Labor Day
Columbus Day
Thanksgiving Day
Day after Thanksgiving
Christmas Day

Vacation

Less than 6 months of work.....no vacation
6 months of work.....three (3) days
1 year of work.....ten (10) days
5 years of work.....fifteen (15) days
15 years of work.....twenty (20) days
21 years of work.....twenty-one (21) days
22 years of work.....twenty-two (22) days
23 years of work.....twenty-three (23) days
24 years of work.....twenty-four (24) days
25 years or more of work.....twenty-five (25) days
Plus two Personal Days per year.

Sick Leave:

10 sick days per year.

Unused sick leave paid in the succeeding January, one full day pay for each unused sick day.

(Local #32 B/J)

BUILDING CLEANER AND MAINTAINER (RESIDENTIAL)

Residential Building Handyperson

Effective Period: 7/1/2014 - 4/20/2015

Wage Rate per Hour: \$24.26

Supplemental Benefit Rate per Hour: \$9.83

Supplemental Note: for new employee 0-3 months of employment - \$0.00. Effective 1/1/2015 - \$10.38

Effective Period: 4/21/2015 - 6/30/2015

Wage Rate per Hour: \$24.83

Supplemental Benefit Rate per Hour: \$10.38

Supplemental Note: for new employee 0-3 months of employment - \$0.00

Residential Building Cleaner/Porter, Doorman, Elevator Operator

Effective Period: 7/1/2014 - 4/20/2015

Wage Rate per Hour: \$21.98

Supplemental Benefit Rate per Hour: \$9.83

Supplemental Note: for new employee 0-3 months of employment - \$0.00; for new employee 4-12 months of employment - \$7.22; for new employee 13-24 months of employment - \$9.58

Effective 1/1/2015 - \$10.38, for new employee 0-3 months of employment - \$0.00; for new employee 4-12 months of employment - \$7.67; for new employee 13-24 months of employment - \$10.13

NEW HIRE - Cleaner/Porter, Doorman, Elevator Operator: may be paid a starting rate of 80% of the hourly rate published above. Upon completion of 30 months of employment, the new hire shall be paid the full wage rate. Upon completion of two years of employment the new hire receives the full supplemental benefit rate.

Effective Period: 4/21/2015 - 6/30/2015

Wage Rate per Hour: \$22.51

Supplemental Benefit Rate per Hour: \$10.38

Supplemental Note: for new employee 0-3 months of employment - \$0.00; for new employee 4-12 months of employment - \$7.67; for new employee 13-24 months of employment - \$10.13

NEW HIRE - Cleaner/Porter, Doorman, Elevator Operator: 0-21 months may be paid 75% of the hourly wage rate published above, 22-42 months may be paid 85% of the hourly wage rate published above. Upon completion of 42 months of employment, the new hire shall be paid the full wage rate. Upon completion of two years of employment the new hire receives the full supplemental benefit rate.

Overtime Description

Supplemental Benefits shall be paid for each hour paid, up to forty (40) paid hours per week.

Overtime

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

Time and one half the regular rate for work on a holiday plus the day's pay.

Time and one half the regular hourly rate after 40 hours in any work week.

Paid Holidays

New Year's Day

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§230 PREVAILING WAGE SCHEDULE

Martin Luther King Jr. Day
President's Day
Memorial Day
Independence Day
Labor Day
Columbus Day
Election Day
Thanksgiving Day
Christmas Day

Vacation

6 months.....three (3) days
1 year.....ten (10) days
5 years.....fifteen (15) days
15 years.....twenty (20) days
21 years.....twenty-one (21) days
22 years.....twenty-two (22) days
23 years.....twenty-three (23) days
24 years.....twenty-four (24) days
25 years.....twenty-five (25) days
Plus two Personal Days per year.

SICK LEAVE

After 1 year of service.....ten (10) days per year

(Local #32 B/J)

BUILDING HVAC SERVICES OPERATOR

Engineer (Refrigeration)

Effective Period: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$36.73

Supplemental Benefit Rate per Hour: \$16.35

Fireperson

Fireperson (Helper): Assist the Engineer

Effective Period: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$28.60

Supplemental Benefit Rate per Hour: \$15.97

Please note that the NYC Comptroller's Office does not publish rates for the Stationary Engineer title.

Overtime Description

All hours worked on a holiday shall be paid at two and one half times the regular wage rate in lieu of the paid day off.

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§230 PREVAILING WAGE SCHEDULE

Overtime

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

Paid Holidays

New Year's Day
Memorial Day
Independence Day
Labor Day
Thanksgiving Day
Christmas Day
Plus six (6) floating Holidays

Vacation

6 months	three (3) days
1 year	ten (10) days
5 years	fifteen (15) days
15 years	twenty (20) days
21 years.....	twenty-one (21) days
22 years	twenty-two (22) days
23 years	twenty-three (23) days
24 years	twenty-four (24) days
25 years	twenty-five (25) days

(Local #94)

CLEANER (PARKING GARAGE)

Garage Cleaner

Effective Period: 7/1/2014 - 6/30/2015
Wage Rate per Hour: \$10.76
Supplemental Benefit Rate per Hour: \$1.63

Overtime

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

FUEL OIL

Fuel Oil, Coal, Fuel Gas, Petroleum Product Chauffeur (5th Year and above)

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
\$230 PREVAILING WAGE SCHEDULE

Effective Period: 7/1/2014 - 12/15/2014
Wage Rate per Hour: \$31.36
Supplemental Benefit Rate per Hour: \$20.77

Effective Period: 12/16/2014 - 6/30/2015
Wage Rate per Hour: \$31.86
Supplemental Benefit Rate per Hour: \$21.27

Fuel Oil, Coal, Fuel Gas, Petroleum Product Chauffeur (4th Year)

Effective Period: 7/1/2014 - 12/15/2014
Wage Rate per Hour: \$28.75
Supplemental Benefit Rate per Hour: \$20.77

Effective Period: 12/16/2014 - 6/30/2015
Wage Rate per Hour: \$29.25
Supplemental Benefit Rate per Hour: \$21.27

Fuel Oil, Coal, Fuel Gas, Petroleum Product Chauffeur (3rd Year)

Effective Period: 7/1/2014 - 12/15/2014
Wage Rate per Hour: \$26.75
Supplemental Benefit Rate per Hour: \$20.77

Effective Period: 12/16/2014 - 6/30/2015
Wage Rate per Hour: \$27.25
Supplemental Benefit Rate per Hour: \$21.27

Fuel Oil, Coal, Fuel Gas, Petroleum Product Chauffeur (2nd Year)

Effective Period: 7/1/2014 - 12/15/2014
Wage Rate per Hour: \$24.75
Supplemental Benefit Rate per Hour: \$20.77

Effective Period: 12/16/2014 - 6/30/2015
Wage Rate per Hour: \$25.25
Supplemental Benefit Rate per Hour: \$21.27

Fuel Oil, Coal, Fuel Gas, Petroleum Product Chauffeur (1st Year)

Effective Period: 7/1/2014 - 12/15/2014
Wage Rate per Hour: \$22.75
Supplemental Benefit Rate per Hour: \$20.77

Effective Period: 12/16/2014 - 6/30/2015
Wage Rate per Hour: \$23.25
Supplemental Benefit Rate per Hour: \$21.27

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§230 PREVAILING WAGE SCHEDULE

Overtime

Time and one half the regular rate after an 8 hour day.
Time and one half the regular rate for Saturday.
Double time the regular rate for Sunday.

Overtime Holidays

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

Martin Luther King Jr. Day
Lincoln's Birthday
Washington's Birthday
Memorial Day
Independence Day
Labor Day
Columbus Day
Election Day
Veteran's Day

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

New Year's Day
Thanksgiving Day
Christmas Day

Paid Holidays

New Year's Day
Martin Luther King Jr. Day
Lincoln's Birthday
Washington's Birthday
Memorial Day
Independence Day
Labor Day
Columbus Day
Election Day
Veteran's Day
Thanksgiving Day
Christmas Day

Vacation

Less than 75 days worked.....no vacation.
75 days worked, but less than 110 days worked in a calendar year.....five (5) days the following year.
110 days or more worked in a calendar year.....ten (10) days the following year.

SICK LEAVE:

1 day sick leave earned for each 40 days worked in the preceding calendar year for a maximum of five (5) days per calendar year.

(Local #553)

GARDENER

Gardener

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
\$230 PREVAILING WAGE SCHEDULE

Effective Period: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$17.57

Supplemental Benefit Rate per Hour: \$1.63

Overtime

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

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)

LOCKSMITH

Locksmith

Effective Period: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$22.28

Supplemental Benefit Rate per Hour: \$6.13

Overtime

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

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)

MEDICAL WASTE REMOVAL

Driver

Effective Period: 7/1/2014 - 3/31/2015

Wage Rate per Hour: \$18.76

Supplemental Benefit Rate per Hour: \$9.47

Effective Period: 4/1/2015 - 6/30/2015

Wage Rate per Hour: \$19.59

Supplemental Benefit Rate per Hour: \$10.34

Helper

Effective Period: 7/1/2014 - 3/31/2015

Wage Rate per Hour: \$15.01

Supplemental Benefit Rate per Hour: \$9.47

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§230 PREVAILING WAGE SCHEDULE

Effective Period: 4/1/2015 - 6/30/2015

Wage Rate per Hour: \$15.84

Supplemental Benefit Rate per Hour: \$10.34

Tractor Trailer Driver

Effective Period: 7/1/2014 - 3/31/2015

Wage Rate per Hour: \$21.26

Supplemental Benefit Rate per Hour: \$9.47

Effective Period: 4/1/2015 - 6/30/2015

Wage Rate per Hour: \$22.09

Supplemental Benefit Rate per Hour: \$10.34

Overtime Description

Time and one half the regular hourly rate after an 8 hour day or after 40 hours in any work week. The seventh day of work in a workweek is paid at double time the regular hourly rate. Time and one half the regular hourly rate for work on a holiday plus days pay for below paid holidays.

Paid Holidays

President's Day

Memorial Day

Independence Day

Labor Day

Thanksgiving Day

Christmas Day

Vacation

1 year of service but less than five years.....	ten (10) days
5 years of service but less than ten years.....	fifteen (15) days
10 years of service.....	sixteen (16) days
11 years.....	seventeen (17) days
12 years.....	eighteen (18) days
13 years.....	nineteen (19) days
14 years.....	twenty (20) days
20 years.....	twenty-one (21) days
21 years.....	twenty-two (22) days
22 years.....	twenty-three (23) days
23 years.....	twenty-four (24) days
24 years.....	twenty-five (25) days
Plus 5 Personal Days	

(Local #813)

MOVER - OFFICE FURNITURE AND EQUIPMENT

Heavy and Tractor Trailer Truck Driver

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
\$230 PREVAILING WAGE SCHEDULE

Tractor-trailer combination or a truck with a capacity of at least 26,000 pounds Gross Vehicle Weight (GVW)

Effective Period: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$22.48

Supplemental Benefit Rate per Hour: \$5.13

Light Truck Driver

Effective Period: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$18.89

Supplemental Benefit Rate per Hour: \$5.13

Laborer and Freight, Stock, and Material Movers, Hand

Effective Period: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$17.59

Supplemental Benefit Rate per Hour: \$5.13

Overtime

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

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)

REFUSE REMOVER

Refuse Remover

Effective Period: 7/1/2014 - 6/30/2015

Wage Rate per Hour: \$29.54

Supplemental Benefit Rate per Hour: \$5.13

Overtime

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

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)

SECURITY GUARD (ARMED)

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§230 PREVAILING WAGE SCHEDULE

Security Guard (Armed)

Effective Period: 7/1/2014 - 12/31/2014

Wage Rate per Hour: \$28.25

Supplemental Benefit Rate per Hour: \$5.02

Supplemental Note: for new employee 0-30 days of employment - \$4.44; for new employee 31-120 days of employment - \$4.61; for new employee 121 days - 2 years of employment - \$4.63

Effective Period: 1/1/2015 - 6/30/2015

Wage Rate per Hour: \$28.50

Supplemental Benefit Rate per Hour: \$5.34

Supplemental Note: for new employee 0-30 days of employment - \$4.62; for new employee 31-120 days of employment - \$4.79; for new employee 121 days - 2 years of employment - \$4.90

Months of employment shall be defined as an Employee's length of service with the Employer or at the Facility, whichever is greater.

Overtime Description

A guard who works a holiday is paid the regular rate plus receives the paid holiday.
Supplemental Benefits shall be paid for each hour paid, up to forty (40) paid hours per week.

Overtime

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

Vacation

Months on payroll	Vacation with Pay
6	3 days
12	5 days
24	10 days
60	15 days
180	20 days
300	25 days

Sick Leave

Employees accrue paid sick leave at the rate of one (1) sick day for every six (6) months worked, up to a maximum of six (6) days a year.

(Local #32B/J)

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
\$230 PREVAILING WAGE SCHEDULE

SECURITY GUARD (UNARMED)

Security Guard (Unarmed) 0 - 6 months

Effective Period: 7/1/2014 - 12/31/2014

Wage Rate per Hour: \$13.10

Supplemental Benefit Rate per Hour: \$4.63

Supplemental Note: for new employee 0-30 days of employment - \$4.44; for new employee 31-120 days of employment - \$4.61

Effective Period: 1/1/2015 - 6/30/2015

Wage Rate per Hour: \$13.35

Supplemental Benefit Rate per Hour: \$4.90

Supplemental Note: for new employee 0-30 days of employment - \$4.62; for new employee 31-120 days of employment - \$4.79

Security Guard (Unarmed) 7 - 12 months

Effective Period: 7/1/2014 - 12/31/2014

Wage Rate per Hour: \$13.60

Supplemental Benefit Rate per Hour: \$4.63

Effective Period: 1/1/2015 - 6/30/2015

Wage Rate per Hour: \$13.85

Supplemental Benefit Rate per Hour: \$4.90

Security Guard (Unarmed) 13 - 18 months

Effective Period: 7/1/2014 - 12/31/2014

Wage Rate per Hour: \$14.10

Supplemental Benefit Rate per Hour: \$4.63

Effective Period: 1/1/2015 - 6/30/2015

Wage Rate per Hour: \$14.35

Supplemental Benefit Rate per Hour: \$4.90

Security Guard (Unarmed) 19 - 24 months

Effective Period: 7/1/2014 - 12/31/2014

Wage Rate per Hour: \$14.60

Supplemental Benefit Rate per Hour: \$4.63

Effective Period: 1/1/2015 - 6/30/2015

Wage Rate per Hour: \$14.85

Supplemental Benefit Rate per Hour: \$4.90

Security Guard (Unarmed) 25 - 30 months

Effective Period: 7/1/2014 - 12/31/2014

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
\$230 PREVAILING WAGE SCHEDULE

Wage Rate per Hour: \$15.10
Supplemental Benefit Rate per Hour: \$5.02

Effective Period: 1/1/2015 - 6/30/2015
Wage Rate per Hour: \$15.35
Supplemental Benefit Rate per Hour: \$5.34

Security Guard (Unarmed) 31 months or more

Effective Period: 7/1/2014 - 12/31/2014
Wage Rate per Hour: \$15.60
Supplemental Benefit Rate per Hour: \$5.02

Effective Period: 1/1/2015 - 6/30/2015
Wage Rate per Hour: \$16.00
Supplemental Benefit Rate per Hour: \$5.34

Months of employment shall be defined as an Employee's length of service with the Employer or at the Facility, whichever is greater.

Overtime Description

A guard who works a holiday is paid the regular rate plus receives the paid holiday.
Supplemental Benefits shall be paid for each hour paid, up to forty (40) paid hours per week.

Overtime

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

Vacation

Months on payroll	Vacation with Pay
6	3 days
12	5 days
24	10 days
60	15 days
180	20 days
300	25 days

Sick Leave

Employees accrue paid sick leave at the rate of one (1) sick day for every six (6) months worked, up to a maximum of six (6) days a year.

(Local #32B/J)

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
\$230 PREVAILING WAGE SCHEDULE

WINDOW CLEANER

Window Cleaner

Effective Period: 7/1/2014 - 12/31/2014

Wage Rate per Hour: \$26.90

Supplemental Benefit Rate per Hour: \$9.91

Effective Period: 1/1/2015 - 6/30/2015

Wage Rate per Hour: \$27.40

Supplemental Benefit Rate per Hour: \$10.46

Power Operated Scaffolds, Manual Scaffolds, and Boatswain Chairs

Effective Period: 7/1/2014 - 12/31/2014

Wage Rate per Hour: \$29.27

Supplemental Benefit Rate per Hour: \$9.91

Effective Period: 1/1/2015 - 6/30/2015

Wage Rate per Hour: \$29.90

Supplemental Benefit Rate per Hour: \$10.46

Window Cleaner Apprentice (0 - 3 months)

Effective Period: 7/1/2014 - 12/31/2014

Wage Rate per Hour: \$19.92

Supplemental Benefit Rate per Hour: None

Effective Period: 1/1/2015 - 6/30/2015

Wage Rate per Hour: \$20.29

Supplemental Benefit Rate per Hour: None

Window Cleaner Apprentice (4 - 7 months)

Effective Period: 7/1/2014 - 12/31/2014

Wage Rate per Hour: \$21.54

Supplemental Benefit Rate per Hour: \$9.91

Effective Period: 1/1/2015 - 6/30/2015

Wage Rate per Hour: \$21.94

Supplemental Benefit Rate per Hour: \$10.46

Window Cleaner Apprentice (8 - 11 months)

Effective Period: 7/1/2014 - 12/31/2014

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§230 PREVAILING WAGE SCHEDULE

Wage Rate per Hour: \$22.82
Supplemental Benefit Rate per Hour: \$9.91

Effective Period: 1/1/2015 - 6/30/2015
Wage Rate per Hour: \$23.24
Supplemental Benefit Rate per Hour: \$10.46

Window Cleaner Apprentice (12 - 15 months)

Effective Period: 7/1/2014 - 12/31/2014
Wage Rate per Hour: \$24.12
Supplemental Benefit Rate per Hour: \$9.91

Effective Period: 1/1/2015 - 6/30/2015
Wage Rate per Hour: \$24.57
Supplemental Benefit Rate per Hour: \$10.46

Window Cleaner Apprentice (16 - 17 months)

Effective Period: 7/1/2014 - 12/31/2014
Wage Rate per Hour: \$25.44
Supplemental Benefit Rate per Hour: \$9.91

Effective Period: 1/1/2015 - 6/30/2015
Wage Rate per Hour: \$25.91
Supplemental Benefit Rate per Hour: \$10.46

Months of employment shall be defined as an Employee's length of service with the Employer or at the Facility, whichever is greater.

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
Martin Luther King Jr. Day
President's Day
Good Friday
Memorial Day
Independence Day
Labor Day
Columbus Day
Thanksgiving Day
Day after Thanksgiving
Christmas Day
Personal Day

Vacation

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK
§230 PREVAILING WAGE SCHEDULE

After 7 months but less than 1 year of service.....	five (5) days
1 year but less than 5 years of service.....	ten (10) days
5 years of service but less than 15 years of service.....	fifteen (15) days
15 years of service but less than 21 years of service.....	twenty (20) days
21 years.....	twenty-one (21) days
22 years.....	twenty-two (22) days
23 years.....	twenty-three (23) days
24 years.....	twenty-four (24) days
25 years or more of service.....	twenty-five (25) days
Plus 1 day per year for medical visit	

SICK LEAVE:

10 days after one year worked. Unused sick days to be paid in cash.

(Local #32 B/J)



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

June 01, 2013

**DDC STANDARD GENERAL CONDITIONS
FOR SINGLE CONTRACT PROJECTS**



NEW YORK CITY DEPARTMENT OF
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June 01, 2013

No Text

NEW YORK CITY DEPARTMENT OF
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DIVISION 01 – DDC STANDARD GENERAL CONDITIONS
SINGLE CONTRACT PROJECTS
TABLE OF CONTENTS

SECTION NO.	SECTION TITLE
01 10 00	SUMMARY
01 31 00	PROJECT MANAGEMENT AND COORDINATION
01 32 00	CONSTRUCTION PROGRESS DOCUMENTATION
01 32 33	PHOTOGRAPHIC DOCUMENTATION
01 33 00	SUBMITTAL PROCEDURES
01 35 03	GENERAL MECHANICAL REQUIREMENTS
01 35 06	GENERAL ELECTRICAL REQUIREMENTS
01 35 26	SAFETY REQUIREMENTS PROCEDURES
01 35 91	HISTORIC TREATMENT PROCEDURES
01 40 00	QUALITY REQUIREMENTS
01 42 00	REFERENCES
01 50 00	TEMPORARY FACILITIES, SERVICES AND CONTROLS
01 54 11	TEMPORARY ELEVATORS AND HOISTS
01 54 23	TEMPORARY SCAFFOLDING AND PLATFORMS
01 73 00	EXECUTION
01 74 19	CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL
01 77 00	CLOSEOUT PROCEDURES
01 78 39	CONTRACT RECORD DOCUMENTS
01 79 00	DEMONSTRATION AND OWNERS PRE-ACCEPTANCE ORIENTATION
01 81 13	SUSTAINABLE DESIGN REQUIREMENTS FOR LEED BUILDINGS
01 81 13.13	VOLATILE ORGANIC COMPOUND (VOC) LIMITS FOR ADHESIVES, SEALANTS, PAINTS AND COATINGS FOR LEED BUILDINGS
01 81 19	INDOOR AIR QUALITY REQUIREMENTS FOR LEED BUILDINGS
01 91 13	GENERAL COMMISSIONING REQUIREMENTS



NEW YORK CITY DEPARTMENT OF
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June 01, 2013

NO TEXT



NEW YORK CITY DEPARTMENT OF
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SECTION 01 10 00
SUMMARY

PART I – GENERAL

1.1 RELATED DOCUMENTS:

- A. The following documents apply to all required work for the Project: (1) the Contract Drawings, (2) the Specifications, (3) the General Conditions, (4) the Addendum, and (5) the Contract [City of New York Standard Construction Contract].
- B. Addendum to the General Conditions: These General Conditions include and are supplemented by the Addendum to the General Conditions (the "Addendum"). The Addendum includes the following: (1) schedules referred to in these General Conditions (Schedule A through F), (2) information regarding the applicability of various articles, and (3) amended articles, if any.

1.2 SUMMARY:

- A. This section includes the following:
 - 1. Scope and Intent
 - 2. Provisions Referenced in the Contract
 - 3. Performance of Work During Non-Regular Work Hours (Pursuant to a Change Order)
 - 4. Interruption of Services at Existing Facilities

1.3 DEFINITIONS:

- A. Refer to Article 2 of the Contract for definition of terms, words and expressions used in the General Conditions not otherwise defined herein.
- B. Design Consultant: "Design Consultant" shall mean the entity responsible for providing design services for the Project, including without limitation, preparing the construction documents (drawings and specifications) and providing services in connection with such documents during construction. The entity serving as the "Design Consultant" may be a corporation, firm, partnership, joint venture, individual or combination thereof. Such entity may be either an employee(s) of the City or an entity engaged by the City to provide such services.

1.4 SCOPE AND INTENT:

- A. Description of Project: Refer to the Addendum for a description of the project.

REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 1.4 B

- B. LEED: The City of New York will seek U.S. Green Building Council (USGBC) LEED (Leadership in Energy and Environmental Design) certification for this Project as specified in Section 01 81 13, "SUSTAINABLE DESIGN REQUIREMENTS FOR LEED BUILDINGS" and the Addendum to the General Conditions.



REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 1.4 C

- C. COMMISSIONING: The project will be commissioned by an independent third party under separate contract with the City of New York. Commissioning shall be in accordance with ASHRAE and USGBC LEED procedures, as described in Section 01 91 13, GENERAL COMMISSIONING REQUIREMENTS, and the Addendum to the General Conditions. The Contractor shall cooperate with the commissioning agent and provide whatever assistance is required.
- D. PROGRESS SCHEDULE: Refer to Section 01 32 00 CONSTRUCTION PROGRESS DOCUMENTATION for requirements of the project.
- E. COMPLETION OF WORK: Work to be done under the Contract is comprised of the furnishing of all labor, materials, equipment and other appurtenances, and obtaining all regulatory agency approvals necessary and required to complete the construction work in accordance with the Contract.
- F. OMISSION OF DETAILS: All work called for in the Specifications applicable to the Contract but not shown on the Contract Drawings in their present form, or vice versa, is required, and shall be performed by the Contractor as though it were originally delineated or described. The cost of such work shall be deemed included in the total Contract Price.
- G. WORK NOT IN SPECIFICATIONS OR CONTRACT DRAWINGS: Work not particularly specified in the Specifications nor detailed on the Contract Drawings but involved in carrying out their intent or in the complete and proper execution of the work, is required, and shall be performed by the Contractor. The cost of such work shall be deemed included in the total Contract Price.
- H. SILENCE OF THE SPECIFICATIONS: The apparent silence of the Specifications as to any detail, or the apparent omission from them of a detailed description concerning any work to be done and materials to be furnished, shall be regarded as meaning that only the best practice is to prevail and that only the best material and workmanship is to be used and interpretation of the Specifications shall be made upon that basis.
- I. CONFLICT BETWEEN CONTRACT DRAWINGS AND SPECIFICATIONS: 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 before the submission of the bid as to what shall govern.

1.5 CONTRACT DRAWINGS AND SPECIFICATIONS:

- A. SCHEDULE C - The Contract Drawings are listed in Schedule C, which is set forth in the Addendum. Such drawings referred to in the Contract, and in the applicable Specifications for the Contract, bear the general title:

City of New York
Department of Design and Construction
Division of Public Buildings
- B. DOCUMENTS FURNISHED TO THE CONTRACTOR - After the award of the Contract, the Contractor will be furnished with five (5) complete sets of paper prints of all Contract Drawings mentioned in Paragraph A above, as well as a copy of the Specifications.
- C. ADDITIONAL COPIES of Drawings and Specifications, when requested, will be furnished to the Contractor if available.



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

- D. **SUPPLEMENTARY DRAWINGS** - When, in the opinion of the Commissioner, it becomes necessary to more fully explain the work to be done, or to illustrate the work further, or to show any changes which may be required, drawings known as Supplementary Drawings will be prepared by the Commissioner.
- E. **COMPENSATION** - Where Supplementary Drawings entail extra work, compensation therefore to the Contractor shall be subject to the terms of the Contract. The Supplementary Drawings shall be binding upon the Contractor with the same force as the Contract Drawings.
- F. **SUPPLEMENTARY DRAWING PRINTS** - Three (3) copies of prints of these Supplementary Drawings will be furnished to the Contractor.
- G. **COPIES TO SUBCONTRACTORS** - The Contractor shall furnish each of its subcontractors and material suppliers such copies of Contract Drawings, Supplementary Drawings, or copies of the Specifications as may be required for its work.

1.6 COORDINATION:

- A. **COORDINATION AND COOPERATION** - The Contractor shall consult and study the requirements of the Contract Drawings and Specifications for all required work, including all work to be performed by trade subcontractors, so that the Contractor may become acquainted with the work of the project as a whole in order to achieve the proper coordination and cooperation necessary for the efficient and timely performance of the work.
- B. **CONTRACTOR TO CHECK DRAWINGS:** - The Contractor shall verify all dimensions, quantities and details shown on the Contract Drawings, Schedules, or other data received from the Commissioner, and shall notify the Commissioner of all errors, omissions, conflicts and discrepancies found therein. Notice of such errors shall be given before the Contractor proceeds with any work. Figures shall be used in preference to scale dimensions and large-scale drawings in preference to small-scale drawings.

1.7 SHOP DRAWINGS AND RECORD DRAWINGS:

Refer to Division I Section 01 33 00 – SUBMITAL PROCEDURES and Section 01 78 39 – PROJECT RECORD DRAWINGS for requirements applicable to shop drawings and record drawings.

1.8 TEMPORARY FACILITIES, SERVICES AND CONTROLS:

Refer to Division I Section 01 50 00 – TEMPORARY FACILITIES SERVICES AND CONTROLS for the responsibilities of the Contractor.

1.9 DUST CONTROL:

The Contractor shall prepare, execute and manage a "Dust Control Plan" for the prevention of the emission of dust from construction related activities in compliance with 15 RCNY 13-01 et. seq.

1.10 PROVISIONS REFERENCED IN THE CONTRACT:

- A. **SCHEDULE A** - Various Articles of the Contract refer to requirements set forth in Schedule A of the General Conditions. Schedule A, which is included in the Addendum, sets forth (1) the referenced Articles of the Contract, and (2) the specific requirements applicable to the Contract.



- B. EXTENSION OF TIME - Applications for Extensions of Time, as indicated in Article 13 of the Contract, shall be made in accordance with the Rules of the Procurement Policy Board.
- C. PARTIAL PAYMENTS FOR MATERIALS IN ADVANCE OF THEIR INCORPORATION IN THE WORK PURSUANT TO ARTICLE 42 OF THE CONTRACT – In order to better insure the availability of materials, fixtures and equipment when needed for the work, the Commissioner may authorize partial payment for certain materials, fixtures and equipment, prior to their incorporation in the work, but only in strict accordance with, and subject to, all the terms and conditions set forth in the Specifications, unless an alternate method of payment is elsewhere provided in the Specifications for specified materials, fixtures or equipment.
1. The Contractor shall submit to the Commissioner a written request, in quadruplicate, for payment for materials purchased or to be purchased for which the Contractor needs to be paid prior to their actual incorporation in the work. The request shall be accompanied by a schedule of the types and quantities of materials, and shall state whether such materials are to be stored on or off the site.
 2. Where the materials are to be stored off the site, they shall be stored at a place other than the Contractor's premises (except with the written consent of the Commissioner) and under the conditions prescribed or approved by the Commissioner. The Contractor shall set apart and separately store at the place or places of storage all materials and shall clearly mark same "PROPERTY OF THE CITY OF NEW YORK", and further, shall not at any time move any of said materials to another off-site place of storage without the prior written consent of the Commissioner. Materials may be removed from their place of storage off the site for incorporation in the work upon approval of the Resident Engineer.
 3. Where the materials are to be stored at the site, they shall be stored at such locations as shall be designated by the Resident Engineer and only in such quantities as, in the opinion of the Resident Engineer, will not interfere with the proper performance of the work by the Contractor or by other Contractors then engaged in performing work on the site. Such materials shall not be removed from their place of storage on the site except for incorporation in the work, without the approval of the Resident Engineer.
 4. INSURANCE
 - a. STORAGE OFF-SITE – Where the materials are stored off the site and until such time as they are incorporated in the work, the Contractor shall fully insure such materials against any and all risks of destruction, damage or loss including but not limited to fire, theft, and any other casualty or happening. The policy of insurance shall be payable to the City of New York. It shall be in such terms and amounts as shall be approved by the Commissioner and shall be placed with a company duly licensed to do business in the State of New York. The Contractor shall deliver the original and one (1) copy of such policy or policies marked "Fully Paid" to the Commissioner.
 - b. STORAGE ON THE SITE – Where the materials are stored at the site, the Contractor shall furnish satisfactory evidence to the Commissioner that they are properly insured against loss, by endorsements or otherwise, under the policy or policies of insurance obtained by the Contractor to cover losses to materials owned or installed by the Contractor. The policy of insurance shall cover fire and extended coverage against windstorm, hail, explosion and riot attending a strike, civil commotion, aircraft, vehicles and smoke.
 5. All costs, charges and expenses arising out of the storage of such materials, shall be paid by the Contractor and the City hereby reserves the right to retain out of any partial or final payment made under the Contract an amount sufficient to cover such costs, charges and expenses with the understanding that the City shall have and may exercise any and all other remedies at law for the recovery of such cost, charges and expenses. There shall be no



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

increase in the Contract price for such costs, charges and expenses and the Contractor shall not make any claim or demand for compensation therefore.

6. The Contractor shall pay any and all costs of handling and delivery of materials, to the place of storage and from the place of storage to the site of the work; and the City shall have the right to retain from any partial or final payment an amount sufficient to cover the cost of such handling and delivery.
7. In the event that the whole or any part of these materials are lost, damaged or destroyed in advance of their satisfactory incorporation in the work, the Contractor, at the Contractor's own cost, shall replace such lost, damaged or destroyed materials of the same character and quality. The City will reimburse the Contractor for the cost of the replaced materials to the extent, and only to the extent, of the funds actually received by the City under the policies of insurance hereinbefore referred to. Until such time as the materials are replaced, the City will deduct from the value of the stored materials or from any other money due under the Contract, the amount paid to the Contractor for such lost, damaged or destroyed materials.
8. Should any of the materials paid for the City hereunder be subsequently rejected or incorporated in the work in a manner or by a method not in accordance with the Contract Documents, the Contractor shall remove and replace, at Contractor's own cost, such defective or improperly incorporated material with materials complying with the Contract Documents. Until such materials are replaced, the City will deduct from the value of the stored materials or from any other money due the Contractor, the amount paid by the City for such rejected or improperly incorporated materials.
9. Payments for the cost of materials made hereunder shall not be deemed to be an acceptance of such materials as being in accordance with the Contract Documents, and the Contractor always retains and must comply with the Contractor's duty to deliver to the site and properly incorporate in the work only materials which comply with the Contract Documents.
10. The Contractor shall retain any and all risks in connection with the damage, destruction or loss of the materials paid for hereunder to the time of delivery of the same to the site of the work and their proper incorporation in the work in accordance with the Contract Documents.
11. The Contractor shall comply with all laws and the regulations of any governmental body or agency pertaining to the priority purchase, allocation and use of the materials.
12. When requesting payment for such materials, the Contractor shall submit with the partial estimate duly authenticated documents of title, such as bills of sale, invoices or warehouse receipts, all in quadruplicate. The executed bills of sale shall transfer title to the materials from the Contractor to the City. (In the event that the invoices state that the material has been purchased by a subcontractor, bills of sale in quadruplicate will also be required transferring title to the materials from subcontractor to the Contractor).
13. Where the Contractor, with the approval of the Commissioner, has purchased unusually large quantities of materials in order to assure their availability for the work, the Commissioner, at the Commissioner's option, may waive the requirements of Paragraph 12 provided the Contractor furnishes evidence in the form of an affidavit from the Contractor in quadruplicate, and such other proof as the Commissioner may require, that the Contractor is the sole owner of such materials and has purchased them free and clear of all liens and other encumbrances. In such event, the Contractor shall pay for such materials and submit proof thereof, in the same manner as provided in Paragraph 12 hereof, within seven (7) days after receipt of payment therefore from the Comptroller. Failure on the part of the Contractor to submit satisfactory evidence that all such materials have been paid for in full, shall preclude the Contractor from payments under the Contract.



14. The Contractor shall include in each succeeding partial estimate requisition a summary of materials stored which shall set forth the quantity and value of materials in storage, on or off the site, at the end of each preceding estimate period; the amount removed for incorporation in the work; the quantity and value of materials delivered during the current period and the total value of materials on hand for which payment thereof will be included in the current payment estimate.
 15. Upon proof to the satisfaction of the Commissioner of the actual cost of such materials and upon submission of proper proof of title as required under Paragraph 12 or Paragraph 13 hereof, payment will be made therefore to the extent of 85%, provided however, that the cost so verified, established and approved shall not exceed the estimated cost of such materials included in the approved detailed breakdown estimate submitted in accordance with Article 41 of the Contract; if it does, the City will pay only 85% approved estimated cost.
 16. Upon the incorporation in the work of any such materials, which have been paid for in advance of such incorporation in accordance with the foregoing provisions, payment will be made for such materials incorporated in the work pursuant to Article 42 of the Contract, less any sums paid pursuant to Paragraph 15 herein.
- D. **MOBILIZATION PAYMENT** – A line item for mobilization shall be allowed on the Contractor's Detailed Bid Breakdown submitted in accordance with Article 41 of the Contract. The Mobilization Payment is intended to include the cost of required bonds, insurance coverage and/or any other expenses required for the initiation of the Contract Work. All costs for mobilization shall be deemed included in the total Contract Price. The Detailed Bid Breakdown shall reflect, and the Mobilization Payment shall be made, in accordance with the following schedule:

Contract Amount	Percent	Mobilization
Less than - \$ 50,000	x 0	= 0
\$ 50,000 - \$ 100,000	x	= \$ 6,000
\$ 100,001 - \$ 500,000	x 6	= \$ 6,000 (min) - \$ 30,000 (max)
\$ 500,000 - \$ 2,500,000	x 5	= \$ 30,000 (min) - \$ 125,000 (max)
Over - \$ 2,500,000	x 4	= \$ 125,000 (min) - \$ 300,000 (max)

The Contractor may requisition for one-half (1/2) of the Mobilization Payment upon satisfactory completion of the following:

1. Installation of any required field office(s).
2. Submission of all required insurance certificates and bonds.
3. Approval by the Department of Design and Construction of the coordinated progress schedule for the project and the Contractor's Shop Drawing schedule.

The remaining balance of the Mobilization Payment may be requisitioned only after 10 percent (10%) of the Contract price, exclusive of the total amount of Mobilization Payments made or to be made hereunder, shall have been approved for payment.

- E. **ULTRA LOW SULFUR DIESEL FUEL AND BEST AVAILABLE TECHNOLOGY REPORTING:** The Contractor shall submit reports to the Commissioner regarding the use of Ultra Low Sulfur Diesel Fuel in Non-Road Vehicles, and the implementation of Best Available Technology (BAT), as set forth in Article 5.4 of the Contract. Such reports shall be submitted in accordance with the schedule, format, directions and procedures established by the Commissioner.



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

1.11 PERFORMANCE OF WORK DURING NON-REGULAR WORK HOURS:

- A. **NON-REGULAR WORK HOURS:** The Commissioner may issue a change order in accordance with Article 25 of the Contract which (1) directs the Contractor to perform the Work, or specific components thereof, during other than regular work hours (i.e., evenings, weekends and holidays), and (2) provides compensation to the Contractor for costs in connection with the performance of Work during other than regular work hours. The Commissioner may issue a change order if a delay has occurred and such delay is not the fault of the Contractor, or if the work is of such an important nature that delay in completing such work would result in serious disadvantage to the public.
- B. **PROCEDURE:** The Contractor shall (1) obtain whatever permits may be required for performance of the work during other than regular business hours, and (2) pay all necessary fees in connection with such permits. In addition, if directed by the Commissioner, the Contractor shall make immediate application to the Commissioner of the Department of Labor, State of New York, for dispensation in accordance with Subdivision 2 of Section 220 of the Labor Law.

1.12 INTERRUPTION OF SERVICES AT EXISTING FACILITIES:

- A. **EVENING AND WEEKEND WORK** - Where performance of the Work requires the temporary shutdown(s) of services, such shutdown(s) shall be made at night or on weekends or at such times that will cause no interference with the established routines and operations of the facility in question.
- 1 Where weekend or evening work is required due to unavoidable service shutdowns, such work shall be performed at no extra cost to the City. Components of the Work that must be performed during other than regular work hours are indicated in the Drawings and/or the Specifications.
- B. **INTERRUPTION OF EXISTING FACILITIES:**
- 1 The Contractor shall not interrupt any of the services of the facility nor interfere with such services in any way without the permission of the Commissioner. Such interruption or interferences shall be made as brief as possible, and only at such time stated.
 - 2 Under no circumstances shall the Contractor, its subcontractors, or its workers, be permitted to use any part of the project as a shop, without the permission of the Commissioner.
 - 3 Unnecessary noise shall be avoided at all times and necessary noise shall be reduced to a minimum.
 - 4 Toilet facilities, water and electricity must be operational at all times (i.e. 24/7). No services of the facility can be interrupted in any way without the permission of the Commissioner. Careful coordination of all work with the Resident Engineer must be done to maintain the operational level of the project personnel at the facility.
 - 5 The Contractor shall schedule the work to avoid noise interference that will affect the normal functions of the facility. In particular, construction operations producing noises that are objectionable to the functions of the facility must be scheduled at times of day or night, day of the week, or weekend, which will not interfere with personnel at the facility. Any additional cost resulting from this scheduling shall be borne by the Contractor.



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

Division 01 – DDC STANDARD GENERAL CONDITIONS
SINGLE CONTRACT PROJECTS
Issue Date - June 01, 2013

- 6 The Contractor shall arrange to work continuously, including evening and weekend hours, if required, to assure that services will be shut down only during the time actually required to make the necessary connections to the existing facility.
- 7 The Contractor shall give ample written notice in advance to the Commissioner and personnel at the facility of any required shutdown.

PART II – PRODUCTS (Not Used)

PART III – EXECUTION (Not Used)

END OF SECTION 01 10 00



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

SECTION 01 31 00
PROJECT MANAGEMENT AND COORDINATION

PART I – GENERAL

1.1 RELATED DOCUMENTS:

- A. The following documents apply to all required work for the Project: (1) the Contract Drawings, (2) the Specifications, (3) the General Conditions, (4) the Addendum, and (5) the Contract [City of New York Standard Construction Contract].
- B. LEED: Refer to the Addendum to identify whether this project is designed to comply with a Certification Level according to the U.S. Green Building Council's Leadership in Energy & Environmental Design (LEED) Rating System, as specified in Section 01 81 13, "SUSTAINABLE DESIGN REQUIREMENTS FOR LEED BUILDINGS."
- C. COMMISSIONING: Refer to the Addendum to identify whether this project will be commissioned by an independent third party under separate contract with the City of New York. Commissioning shall be in accordance with ASHRAE and USGBC LEED-NC procedures, as described in Section 01 91 13, GENERAL COMMISSIONING REQUIREMENTS. The Contractor shall cooperate with the commissioning agent and provide whatever assistance is required.

1.2 SUMMARY:

- A. This Section includes administrative provisions for coordinating construction operations on the Project including without limitation the following.
 - 1. Coordination Drawings.
 - 2. Administrative and supervisory personnel.
 - 3. Project meetings.
 - 4. Requests for Interpretation (RFIs).
- B. This section includes the following:
 - 1. Definitions
 - 2. Coordination
 - 3. Submittals
 - 4. Administrative and Supervisory Personnel
 - 5. Project Meetings
 - 6. Requests for Interpretation (RFI's)
 - 7. Correspondence
 - 8. Contractor's Daily Reports
 - 9. Alternate and Substitute Equipment
- C. RELATED SECTIONS: include without limitation the following:
 - 1. Section 01 10 00 SUMMARY
 - 2. Section 01 32 00 CONSTRUCTION PROGRESS DOCUMENTATION
 - 3. Section 01 33 00 SUBMITTALS
 - 4. Section 01 35 26 SAFETY REQUIREMENTS
 - 5. Section 01 73 00 EXECUTION REQUIREMENTS
 - 6. Section 01 74 19 CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL



7. Section 01 77 00 PROJECT CLOSEOUT PROCEDURES

1.3 DEFINITIONS:

- A. Refer to Article 2 of the Contract for definition of terms, words and expressions used in the General Conditions not otherwise defined herein.
- B. Design Consultant: "Design Consultant" shall mean the entity responsible for providing design services for the Project, including without limitation, preparing the construction documents (drawings and specifications) and providing services in connection with such documents during construction. The entity serving as the "Design Consultant" may be a corporation, firm, partnership, joint venture, individual or combination thereof. Such entity may be either an employee(s) of the City or an entity engaged by the City to provide such services.

1.4 COORDINATION:

- A. Coordination: The Contractor shall coordinate its construction operations, including those of its subcontractors, with other entities to ensure the efficient and orderly installation of each part of the Work. The Contractor shall coordinate the various operations required by different Sections of the Specifications that depend on each other for proper installation, connection, and operation.
 - 1. Schedule construction operations in sequence in order to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
 - 2. Coordinate installation of different components to ensure maximum accessibility for required maintenance, service, and repair.
 - 3. Make adequate provisions to accommodate items scheduled for later installation.
 - 4. Where availability of space is limited, coordinate installation of different components to ensure maximum performance and accessibility for required maintenance, service, and repair of all components, including mechanical and electrical.
- B. The Contractor shall prepare memoranda for distribution to its subcontractors and other involved entities, outlining special procedures required for coordination. Such memoranda shall include required notices, reports, and meeting minutes as applicable.
- C. Administrative Procedures: The Contractor shall coordinate scheduling and timing of required administrative procedures with other construction activities and activities of its subcontractors to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include without limitation the following:
 - 1. Preparation of Contractor's Construction Schedule.
 - 2. Installation and removal of temporary facilities and controls.
 - 3. Delivery and processing of submittals.
 - 4. Progress meetings.
 - 5. Pre-installation conferences..
 - 6. Startup and adjustment of systems.
 - 7. Project closeout activities.
- D. Conservation: The Contractor shall coordinate construction activities to ensure that operations are carried out with consideration given to conservation of energy, water, and materials.



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

- E. Salvaged Items, Material and/or Equipment: The Specifications may identify certain items, materials or equipment which must be salvaged by the Contractor and handled or disposed of as directed. The Contractor shall comply with all directions in the Specifications regarding the salvaging and handling of identified items, material or equipment.

1.5 SUBMITTALS:

- A. Submit shop drawings, product data, samples etc. in compliance with Section 01 33 00, SUBMITTAL PROCEDURES.
- B. Coordination Drawings: The Contractor shall prepare applicable Coordination Drawings in compliance with the requirements for Coordination Drawings in Section 01 33 00, SUBMITTAL PROCEDURES.
- C. Safety Plan in compliance with Section 01 35 26, SAFETY REQUIREMENTS PROCEDURES.
- D. Waste Management Plan in compliance with Section 01 74 19, CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL.
- E. Key Personnel Names: Within 15 days after the Notice to Proceed, the Contractor shall submit a list of key personnel assignments of the Contractor and its subcontractors, including superintendent and other personnel in attendance at Project site. Identify individuals and their duties and responsibilities; list addresses and telephone numbers, including home and office telephone numbers. Provide names, addresses, and telephone numbers of individuals assigned as standbys in case of the absence of individuals assigned to Project.
1. Post copies of list in Project meeting room, in temporary field office, and by each temporary telephone. Keep list current at all times.
 2. In addition to Project superintendent, provide other administrative and supervisory personnel as required for proper performance of the Work. Include special personnel required for coordinating all operations by its subcontractors.

1.6 PROJECT MEETINGS:

- A. General: The Resident Engineer will hold regularly scheduled construction progress meetings at the site, at which time the Contractor and appropriate subcontractors shall have their representatives present to discuss all details relative to the execution of the work. The Resident Engineer shall preside over these meetings.
1. Agenda: Prior to each meeting, the Resident Engineer will consult with the Contractor and will prepare an agenda of items to be discussed. In general, after informal discussion of any item on the agenda, the Resident Engineer will summarize the discussion in a brief written statement, and the Contractor will then dictate a brief statement for the record.
 2. Coordination: In addition to construction progress meetings called by the Resident Engineer, the Contractor shall hold regularly scheduled meetings for the purpose of coordinating; expediting and scheduling the work in accordance with the master coordinated Job Progress Chart. The Contractor and its subcontractors, material suppliers or vendors whose presence is necessary, are required to attend. These meetings may, at the discretion of the Contractor, be held at the same place and immediately following the project meetings held by the Resident Engineer. Minutes of these meetings shall be recorded, typed and printed by the Contractor and distributed to all parties concerned.
- B. PRECONSTRUCTION KICK-OFF MEETING:
1. The Resident Engineer will schedule a preconstruction kick-off meeting either at DDC's main office or at the Project site to review responsibilities and personnel assignments and clarify the



role of each participant. Unless otherwise directed the Design Consultant will record and distribute meeting minutes.

2. Attendees: Authorized representative of the Client Agency; Design Consultant; the Contractor and its superintendents, subcontractor(s) and their superintendent(s); LEED sub-consultant and Commissioning Authority /Agent (CxA) as applicable and other concerned parties. All participants at the meeting shall be familiar with the Project and authorized to conclude matters relating to the Contract Work.
3. Agenda: Includes without limitation the following as applicable:
 - a. Establishing construction schedule
 - b. Schedule for regular construction meetings
 - c. Phasing
 - d. Critical work sequencing and long-lead items
 - e. Designation of key personnel and their duties
 - f. Reviewing Application for Payment and Change Order Procedures
 - g. Procedures for Requests for Information (RFIs.)
 - h. Review Permits and Approval requirements
 - i. Review all recent Administrative Code reporting requirements relating to the project, (i.e. LL 77, LL86 etc.)
 - j. Procedures for testing and inspecting
 - k. Reviewing special conditions at the Project site
 - l. Distribution of the Contract Documents
 - m. Submittal procedures
 - n. Safety Procedures
 - o. LEED requirements
 - p. Commissioning Requirements
 - q. Preparation of Record Documents
 - r. Historic Treatment requirements
 - s. Use of the premises
 - t. Work restrictions
 - u. Client Agency occupancy requirements
 - v. Responsibility for temporary facilities, services and controls
 - w. Construction Waste Management and Disposal
 - x. Indoor Air Quality Management Plan
 - y. Dust Mitigation Plan
 - z. Office, work, and storage areas
 - aa. Equipment deliveries and priorities
 - bb. Security
 - cc. Progress cleaning
 - dd. Working hours



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

C. CONSTRUCTION PROGRESS MEETINGS:

1. The Resident Engineer will schedule and conduct construction progress meetings at bi-weekly intervals or as otherwise determined. All participants at the meeting shall be familiar with the Project and authorized to conclude matters relating to the Work. Unless otherwise directed the Design Consultant will record and distribute meeting minutes.
2. Attendees:
 - a. Design Consultant and applicable sub-consultants
 - b. Client Agency Representative
 - c. Representatives from the Contractor, sub-contractor(s), suppliers or other entities involved in the current progress, planning, coordination or future activities of the Work
 - d. Other appropriate DDC personnel, DDC consultants and concerned parties
3. Agenda: Includes without limitation the following:
 - a. Review the Construction Schedule and progress of the Work. Determine if the Work is on time, ahead of schedule or behind schedule. Determine actions to be taken to maintain or accelerate the schedule
 - b. Review and approve prior meeting minutes and follow up open issues
 - c. Coordinate work between each subcontractor
 - d. Sequence of Operations
 - e. Status of submittals, deliveries and off-site fabrication
 - f. Status of inspections and approvals by governing agencies
 - g. Temporary facilities and controls
 - h. Review Site Safety
 - i. Quality and work standards
 - j. Field observations
 - k. Status of correction of deficient items
 - l. RFI's
 - m. Pending changes
 - n. Status of outstanding Payments and Change Orders
 - o. LEED requirements including Construction Waste Management, Indoor Air Quality Plan, Dust Mitigation and Commissioning
 - p. Status of Administrative Code reporting requirements related to the project.

1.7 REQUESTS FOR INFORMATION (RFI):

- A. Procedure: Immediately on discovery of the need for information or interpretation of the Contract Documents, and if not possible to request interpretation at Project meeting, the Contractor shall prepare and submit an RFI in the form specified by the Resident Engineer.
 1. RFI shall originate with the Contractor. RFIs submitted by entities other than Contractor will be returned with no response.
 2. Coordinate and submit RFI in a prompt manner to the Resident Engineer so as to avoid delays in Contractor's work or work of its subcontractors.
 3. RFI Log: The Contractor shall prepare, maintain, and submit a tabular log of RFIs organized by the RFI number monthly to the Resident Engineer.



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

Division 01 – DDC STANDARD GENERAL CONDITIONS
SINGLE CONTRACT PROJECTS
Issue Date - June 01, 2013

4. On receipt of responses and action to the RFI, the Contractor shall update the RFI log and immediately distribute the RFI response to affected parties. Review response(s) and notify the Resident Engineer immediately if the Contractor disagrees with response(s).

1.8 CORRESPONDENCE:

Copies of all correspondence to DDC shall be sent directly to the Resident Engineer at the job site.

1.9 CONTRACTOR'S DAILY REPORTS:

The Contractor shall prepare and submit Daily Construction Progress Reports as outlined in Section 01 32 00, CONSTRUCTION PROGRESS DOCUMENTATION.

PART II – PRODUCTS (Not Used)

PART III – EXECUTION (Not Used)

END OF SECTION 01 31 00



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

SECTION 01 32 00
CONSTRUCTION PROGRESS DOCUMENTATION

PART I – GENERAL

1.1 RELATED DOCUMENTS:

- A. The following documents apply to all required work for the Project: (1) the Contract Drawings, (2) the Specifications, (3) the General Conditions, (4) the Addendum, and (5) the Contract [City of New York Standard Construction Contract].

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for establishing an effective base line schedule for the project and documenting the progress of construction during performance of the Work by developing, revising as necessary, various documents including but not limited to the following:
1. Baseline Construction Schedule.
 2. Composite Schedule for entire project
 3. Recovery Composite Schedule
 4. Revised and/or updated Composite Schedule
 5. Submittals Schedule.
 6. Daily construction reports.
 7. Material location reports.
 8. Field condition reports.
 9. Special reports.
- B. RELATED SECTIONS: include without limitation the following:
1. Section 01 10 00 SUMMARY
 2. Section 01 32 22 PHOTOGRAPHIC DOCUMENTATION
 3. Section 01 33 00 SUBMITTAL PROCEDURES
 4. Section 01 40 00 QUALITY REQUIREMENTS

1.3 DEFINITIONS:

- A. Refer to Article 2 of the Contract for definition of terms, words and expressions used in the General Conditions not otherwise defined herein.
- B. Design Consultant: "Design Consultant" shall mean the entity responsible for providing design services for the Project, including without limitation, preparing the construction documents (drawings and specifications) and providing services in connection with such documents during construction. The entity serving as the "Design Consultant" may be a corporation, firm, partnership, joint venture, individual or combination thereof. Such entity may be either an employee(s) of the City or an entity engaged by the City to provide such services.



- C. **Baseline Construction Schedule:**
A horizontal bar chart type schedule (Microsoft Project OR similar program) listing all the activities and their duration for entire contract duration OR construction period, including logical ties and interrelations between the activities necessary for the timely and successful completion of the project. Critical path activities shall be clearly marked. The Baseline construction schedule is a preliminary schedule that must be reviewed and approved by the Resident Engineer.
- D. **Composite Schedule:**
A composite horizontal bar chart type schedule (Microsoft Project OR similar program) listing all activities to be performed by the Contractor and its subcontractors, the duration of each activity including logical ties and interrelations between activities, and the sequence of each of necessary activities for the timely and successful completion of the project within the stipulated contract duration. Critical path activities shall be clearly marked. The Composite schedule must be signed and submitted by the Contractor within thirty (30) calendar days after the date established for commencement of the Contract, unless otherwise directed. The Composite Schedule must be reviewed and approved by the Resident Engineer.
- E. **Recovery Composite Schedule:** A Recovery Composite Schedule is not required unless the City issues an Acceleration Change Order.
A Composite Schedule outlining and incorporating extraordinary efforts required to recover lost time with the aim of achieving completion of the project within the stipulated contract duration, plus authorized time extensions. In such case special attention must be given to keep the delays as minimum as possible and must establish the nature of efforts such as extended hours of work, weekend work, accelerated fabrication, required action(s) or effort(s) by the Contractor, its subcontractors, consultants, clients, end users and/or other concerned parties.
Such schedule must be prepared and submitted within Five (5) calendar days of request by the Resident Engineer. The Recovery Composite Schedule must be reviewed and approved by the Resident Engineer.
- F. **Revised and/or Updated Composite Schedule:**
A Baseline construction schedule OR Composite Schedule OR Recovery Composite Schedule for the project that shows the actual duration of all the completed activities, including duration of and the reasons for delays, if any has occurred, AND revisions to all remaining activities of the Contractor and its subcontractors, including changes, if any, to logical ties, interrelations and the sequence of each of the outlined activities. Any such revisions should be shown on the row just below the approved schedule of the respective activity so that revisions can be compared.
The Revised and/or updated Composite Schedule must be reviewed and approved by the Resident Engineer.
- G. **Activity:** A discrete part of a project that can be identified for planning, scheduling, monitoring, and controlling the construction project. Activities included in a construction schedule consume time and resources.
- H. **Event:** The starting or ending point of an activity.
- I. **Fragment:** A part of the activity that breaks down activities into smaller activities for greater detail.
- J. **Milestone:** A key or critical point in time for reference or measurement.
- K. **Network Diagram:** A graphic diagram of a network schedule, showing activities and activity relationships.



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

PART II – PRODUCTS

2.1 BASELINE CONSTRUCTION SCHEDULE:

- A. The Contractor shall prepare a Baseline horizontal bar-chart-type construction schedule for the project. Submit the Baseline Construction Schedule to the Resident Engineer within (15) fifteen calendar days after the date established for commencement of the Contract, unless directed otherwise. The Baseline Schedule must be reviewed and approved by the Resident Engineer.
1. Provide a separate time bar for each significant construction activity. Coordinate each activity on the schedule with other construction activities for proper interrelationship & sequence.
 2. Duration: The duration of each activity on the schedule besides installation must clearly show required duration of filing for permits, inspections, testing, approvals, shop drawings and materials submittals and approvals, fabrication, delivery, phasing for each construction activity.
 3. Schedule shall be time-scaled in not more than weekly increments, with the dates of the first day (Monday) of each week indicated.
 4. Completion of all the project activities shall be indicated in advance of the date established for completion of the Contract, allowing time for required inspection and punch list work.
 5. Clearly show time bar for all the tasks, to be completed before start of physical work of scheduled activities, including but not limited to obtaining required permit, subcontractor approval, submission and approval of shop drawings, field verification, time for fabrication and delivery, testing of materials and/or samples, preparation and approval of mock-up sample, curing, pre-testing of soil, pre-testing of equipment - including start up, testing & adjusting, filing for inspection by regulatory agencies, training, final use, etc. required to maintain orderly progress of the activity. A special consideration must be given to those activities requiring early approvals because of long lead-time for manufacture or fabrication.
 6. Phasing: Arrange all activities in proper sequence to reflect requirements for phased completion, work by other entities, work by the City, City furnished items, coordination with existing work, limitations arising due to continued occupancies, non-interruptible services, partial completion for occupancy, site restrictions, provisions for future work, seasonal variations, environmental control, and similar conditions of the project.
 7. Arrange all activities and/or show interrelationship and logical sequence of all activities, determine and mark all critical path activities including any phasing reflecting actual project condition.
 8. Keep at least two blank horizontal bars between all activities for recording actual progress and submitting Revised Schedule as defined in Sub-Section 1.3 G
 9. If necessary a new revised schedule shall be prepared in the same manner as outlined above.

2.2 COMPOSITE SCHEDULE FOR THE PROJECT:

- A. The Contractor shall prepare a Composite Schedule based on the approved Baseline Schedule. Such schedule shall indicate graphically and chronologically the start and completion of each and every activity, including all the pre-activity and post activity tasks. Keep at least two blank horizontal bars between all activities for recording actual progress and/or revisions.
1. If necessary the Contractors shall meet with each subcontractor and with the Resident Engineer to review and make warranted adjustments and finalize the Composite Schedule. Once the schedule is finalized, the Contractor shall sign and date a reproducible form of the Composite Schedule. The Composite Schedule must be finalized and signed by the Contractor within (30) thirty calendar days after the date established for commencement of the Contract, unless directed otherwise. The Composite Schedule must be reviewed and approved by the Resident Engineer.



2.3 RECOVERY COMPOSITE SCHEDULE:

- A. A Recovery Composite Schedule is not required unless the City issues an Acceleration Change Order. A Recovery Composite Schedule outlining and incorporating extraordinary efforts required to recover lost time with the aim of achieving completion of the project within the stipulated contract duration, plus authorized time extensions, must be developed and submitted within (5) five calendar days of the request by the Resident Engineer. Such Recovery Composite Schedule shall include all information as defined in Article 1.3 F and shall be prepared in the same manner as outlined in Sub-Sections 2.1 and 2.2. The Recovery Composite Schedule must be reviewed and approved by the Resident Engineer.

2.4 REVISED AND/OR UPDATED COMPOSITE SCHEDULE:

- A. The Contractor shall revise and/or update the approved Composite Schedule as directed. The Revised schedule shall be prepared in the same manner as outlined above in Sub-Sections 2.1 and 2.2.
- B. The Contractor shall mark actual progress, delays, work stoppage etc. in the row just below the approved schedule for the respective activity so that revisions can be compared.
- C. Such schedule also shall indicate graphically and chronologically any revisions to the start and completion of the remaining activities including revisions to all the pre-activity and post activity tasks for all subcontractors.
- D. If necessary, the Contractor shall meet with each subcontractor and with the Resident Engineer to review and make warranted adjustments and finalize the Revised Composite Schedule. Once the schedule is finalized, the Contractor shall sign and date a reproducible form of the Schedule. Such schedule must be prepared and submitted by the Contractor within Five (5) calendar days of request by the Resident Engineer. The Revised Composite Schedule must be reviewed and approved by the Resident Engineer.

2.5 SUBMITTALS SCHEDULE:

- A. Preparation: The Contractor shall submit a schedule of submittals, arranged in chronological order by dates required by the construction schedule. Include time required for review, re-submittal, ordering, manufacturing, fabrication, and delivery when establishing dates.
- B. SCHEDULE F: Schedule F sets forth all submittal requirements for shop drawings and material samples. Schedule F is included in the Addendum. At the kick-off meeting, the Contractor must review this Schedule with the Resident Engineer and the Design Consultant. Within 10 days after the kick-off meeting, the Contractor must complete information on Schedule F concerning the submission date, the required delivery date and the fabrication time. For all required submittals of shop drawings and material samples, the Schedule F provided by the Contractor must indicate a submission date which is at least 20 business days prior to the date of the manufacture of the item or materials to be installed. In addition, if so directed by the Commissioner, the Schedule F provided by the Contractor must indicate a submission date for shop drawings and/or material samples of specified items or materials which is within 60 business days after the kick-off meeting. In the event of any conflict between the Specifications and Schedule F, Schedule F shall take precedence; provided, however, in the event of an omission from Schedule F (i.e., Schedule F omits either a reference to or information concerning a submittal requirement which is set forth in the Specifications), such omission from Schedule F shall have no effect and the Contractor's submittal obligation, as set forth in the Specifications, shall remain in full force and effect.
- C. Review: The Resident Engineer will review the Schedule F submitted by Contractor. Upon acceptance, the Resident Engineer will date and sign the schedule as approved and transmit it to the Design Consultant, Contractor and others within DDC as he/she deems appropriate.



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

2.6 REPORTS:

- A. Daily Construction Reports: The Contractor shall submit to the Resident Engineer written Daily Construction Reports at the end of each work day, recording basic information such as the date, day, weather conditions, and contract days passed, remaining contract duration/days and the following information concerning the Project.

Information: The reports shall be prepared by the Contractor's Superintendent and shall bear the Contractor's Superintendents signature. Each report shall contain the following information:

1. List of name of Contractor, subcontractors, their work force in each category, and details of activities performed.
2. The type of materials and/or major equipment being installed by the Contractor and/or by each subcontractor.
3. The major construction equipment being used by the Contractor and/or subcontractors.
4. Material and Equipment deliveries.
5. High and low temperatures and general weather conditions.
6. Accidents.
7. Meetings and significant decisions.
8. Unusual events.
9. Stoppages, delays, shortages, and losses.
10. Meter readings and similar recordings
11. Emergency procedures.
12. Orders and/or requests of authorities having jurisdiction.
13. Approved Change Orders received and implemented.
14. Field Orders and Directives received and implemented.
15. Services connected and disconnected.
16. Equipment or system tests and startups.
17. Partial Completions and occupancies.
18. Substantial Completions authorized.

NOTE: If there is NO ACTIVITY at site, a daily report indicating so and the reason for no activity at the site must be submitted.

- B. Material Location Reports: The contractor shall submit a Material Location Report at weekly OR monthly intervals as determined and established by the Resident Engineer. Such report shall include a comprehensive list of materials delivered to and stored at Project site. List shall be cumulative, showing materials previously reported plus items recently delivered. Include with list a statement of progress on and delivery dates for materials or items of equipment fabricated or stored away from Project site.
- C. Field Condition Reports: Immediately on discovery of a difference between field conditions and the Contract Documents, prepare and submit a detailed report. Submit a Request For Information (RFI) form with a detailed description of the differing conditions, together with recommendations for changing the Contract Documents.

2.7 SPECIAL REPORTS:

- A. Accident report, incident report, special condition report for the conditions out of control of any party involved with the project effecting project progress, explaining impact on the project schedule and cost if any.

PART III – EXECUTION (Not Used)
END OF SECTION 01 32 00



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

Division 01 – DDC STANDARD GENERAL CONDITIONS
SINGLE CONTRACT PROJECTS
Issue Date - June 01, 2013

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NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

Division 01 – DDC STANDARD GENERAL CONDITIONS
SINGLE CONTRACT PROJECTS
Issue Date - June 01, 2013

SECTION 01 32 33
PHOTOGRAPHIC DOCUMENTATION

REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SECTION 01 32 33

PART I – GENERAL

1.1 RELATED DOCUMENTS:

- A. The following documents apply to all required work for the Project: (1) the Contract Drawings, (2) the Specifications, (3) the General Conditions, (4) the Addendum, and (5) the Contract [City of New York Standard Construction Contract]

1.2 SUMMARY:

- A. This Section includes the following:
1. Photographic Media
 2. Construction Photographs
 3. Pre-construction Photographs
 4. Periodic Construction Progress Photographs
 5. Special Photographs
 6. DVD Recordings
 7. Final Completion Construction Photographs
- B. RELATED SECTIONS: include without limitation the following:
1. Section 01 10 00 SUMMARY
 2. Section 01 33 00 SUBMITTAL PROCEDURES
 3. Section 01 35 91 HISTORIC TREATMENT PROCEDURES
 4. Section 01 78 39 CONTRACT RECORD DOCUMENTS
 5. Section 01 81 19 INDOOR AIR QUALITY REQUIREMENTS FOR LEED BUILDINGS
- C. PHOTOGRAPHER - The Contractor shall employ and pay for the services of a professional photographer who shall take photographs showing the progress of the work for all Contracts.

1.3 DEFINITIONS:

- A. Refer to Article 2 of the Contract for definition of terms, words and expressions used in the General Conditions not otherwise defined herein.
- B. Design Consultant: "Design Consultant" shall mean the entity responsible for providing design services for the Project, including without limitation, preparing the construction documents (drawings and specifications) and providing services in connection with such documents during construction. The entity serving as the "Design Consultant" may be a corporation, firm, partnership, joint venture, individual or combination thereof. Such entity may be either an employee(s) of the City or an entity engaged by the City to provide such services.

1.4 SUBMITTALS:

- A. Qualification Data: For photographer.



- B. Key Plan: With each Progress Photograph Submittal include a key plan of Project site and building with notation of vantage points marked for location and direction of each image. Indicate location, elevation or story of construction. Include same label information as corresponding set of photographs.
- C. Construction Progress Photograph Prints: Take Progress Photographs bi-weekly and submit four color prints of each photographic view for each trade to the Resident Engineer. Such photographs shall be included in each monthly progress report or as otherwise directed by the Resident Engineer.
- D. Construction Photograph Negatives: Submit a complete set of photographic negatives in individually protected negative sleeves with each submittal of prints. Identify negatives with label matching photographic prints.
- E. Digital Images: If Digital Media is used, submit a complete set of digital color image electronic files on CD-ROM with each submittal of prints. Identify electronic media with date photographs were taken. Submit images that have same aspect ratio as the sensor, un-cropped.

1.5 QUALITY ASSURANCE:

- A. Photographer Qualifications: An individual who has been regularly engaged as a professional photographer of construction projects for not less than three years.

1.6 COORDINATION:

- A. The Contractor and its subcontractor(s) shall cooperate with the photographer and provide auxiliary services requested, including access to Project site and use of temporary facilities, including temporary lighting required to produce clear, well-lit photographs without obscuring shadows.

1.7 COPYRIGHT:

- A. The Contractor shall include the provisions set forth below in the agreement between the Contractor and the Photographer who will provide the construction photographs described in this section. The Contractor shall submit to the Resident Engineer a copy of its agreement with the Photographer.
- B. Any photographs, images and/or other materials produced pursuant to this Agreement, and any and all drafts and/or other preliminary materials in any format related to such items produced pursuant to this Agreement, shall upon their creation become the exclusive property of the City.
- C. Any photographs, images and/or other materials provided pursuant to this Agreement ("Copyrightable Materials") shall be considered "work-made-for-hire" within the meaning and purview of Section 101 of the United States Copyright Act, 17 U.S.C. § 101, and the City shall be the copyright owner thereof and of all aspects, elements and components thereof in which copyright protection might exist. To the extent that the Copyrightable Materials do not qualify as "work-made-for-hire," the Photographer hereby irrevocably transfers, assigns and conveys exclusive copyright ownership in and to the Copyrightable Materials to the City, free and clear of any liens, claims, or other encumbrances. The Photographer shall retain no copyright or intellectual property interest in the Copyrightable Materials. The Copyrightable Materials shall be used by the Photographer for no purpose other than in the performance of this Agreement without the prior written permission of the City. The Department may grant the Photographer a license to use the Copyrightable Materials on such terms as determined by the Department and set forth in the license.
- D. The Photographer acknowledges that the City may, in its sole discretion, register copyright in the Copyrightable Materials with the United States Copyright Office or any other government agency authorized to grant copyright registrations. The Photographer shall fully cooperate in this effort, and agrees to provide any and all documentation necessary to accomplish this.



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

- E. The Photographer represents and warrants that the Copyrightable Materials: (i) are wholly original material not published elsewhere (except for material that is in the public domain); (ii) do not violate any copyright Law; (iii) do not constitute defamation or invasion of the right of privacy or publicity; and (iv) are not an infringement, of any kind, of the rights of any third party. To the extent that the Copyrightable Materials incorporate any non-original material, the Photographer has obtained all necessary permissions and clearances, in writing, for the use of such non-original material under this Agreement, copies of which shall be provided to the City.

PART II – PRODUCTS

2.1 PHOTOGRAPHIC MEDIA:

- A. Photographic Film: Medium format, 2-1/4 by 2-1/4 inches (60 by 60 mm).
- B. Digital Images:
1. Construction Progress Images: Color images in JPEG format with minimum sensor size of 1.3 megapixels.
 2. Presentation Quality Images: Provide Color images in uncompressed TIFF format, produced by a digital camera with minimum sensor size of 4.0 megapixels, and at an image resolution of not less than 1024 by 768 with 8"x10" original capture at 300 dpi or greater.
- C. Prints:
1. Format: 8-by-10-inch (203-by-254-mm) smooth-surface matte color prints on single-weight commercial-grade stock paper, with 1inch wide margins and punched for standard 3-ring binder.
 2. Identification: On the front of each photograph affix a label in the margin with Project name and date photograph was taken. On the back of each print, provide an applied label or rubber-stamped impression with the following information:
 - a. Project Contract I.D. Number.
 - b. Project Contract Name.
 - c. Name of Contractor. (and Subcontractor Trade Represented)
 - d. Subject of Image Taken.
 - e. Date and time photograph was taken if not date stamped by camera.
 - f. Description of vantage point, indicating location, direction and other pertinent information.
 - g. Unique sequential identifier.
 - h. Name and address of photographer.

PART III – EXECUTION

3.1 CONSTRUCTION PHOTOGRAPHS:

- A. General: Take photographs using the maximum range of depth of field, and that are in focus, to clearly show the Work. Photographs with blurry or out-of-focus areas will not be accepted.
1. Maintain key plan with each set of construction photographs that identifies each photographic location and direction of view.
- B. Film Images:
1. Date Stamp: Unless otherwise indicated, date and time stamp each photograph as it is being taken so stamp is integral to photograph.



2. Field Office Prints: Retain one set of prints of progress photographs in the field office at Project site, available at all times for reference. Identify photographs same as for those submitted to Commissioner.
- C. Digital Images: Submit digital images exactly as originally recorded in the digital camera, without alteration, manipulation, editing, or modifications using image-editing software.
 1. Date and Time: Include date and time in filename for each image.
 2. Field Office Images: Maintain one set of images on CD-ROM in the field office at Project site, available at all times for reference. Identify images same as for those submitted to Commissioner.

3.2 PRE-CONSTRUCTION & PRE-DEMOLITION PHOTOGRAPHS:

- A. Before commencement of Contract work at the site, take color photographs of Project site and surrounding properties, including existing structures or items to remain during construction, from different vantage points, as directed by the Resident Engineer.
 1. Flag applicable excavation areas and construction limits before taking construction photographs.
 2. Take photographs of minimum eight (8) views to show existing conditions adjacent to property before starting the Work.
 3. Take applicable photographs of minimum eight (8) views of existing buildings either on or adjoining property to accurately record physical conditions at start of construction.
 4. Take additional photographs as required or directed by the Resident Engineer to record settlement or cracking of adjacent structures, pavements, and improvements.
- B. Demolition Operations: Take photographs as directed by the Resident Engineer of minimum of eight (8) views each before commencement of demolition operations, at mid-point of operations and at completion of operations.
- C. Pre-Demolition Photographs: Take archival quality color photographs, to include all exterior building facades, of all structures at the Project site designated to be fully demolished or removed in compliance with NYC Building Code requirements. Submit four (4) complete sets of pre-demolition photographs, in the format specified herein, to the Resident Engineer for submission to the Department of Buildings.

3.3 PERIODIC CONSTRUCTION PROGRESS PHOTOGRAPHS:

- A. Take photographs of minimum eight (8) views bi-weekly as directed by the Resident Engineer of construction progress for each contract trade. Select vantage points to show status of construction and progress since last photographs were taken.

3.4 SPECIAL PHOTOGRAPHS:

- A. The photographer shall take special photographs of subject matter or events as specified in other sections of the Project Specifications from vantage points specified or as otherwise directed by the Resident Engineer.
- B. Historical Elements: As required in Section 01 35 91, HISTORIC TREATMENT PROCEDURES, for Contract work at designated landmark structures or sites the photographer, as specified and required by individual sections of the Contract documents or at the direction of the Commissioner, shall take images of existing elements scheduled to be removed for replacement, repair or replication in quantities as directed, including post-construction photographs of completed work as directed by the Commissioner.



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

1. Take Presentation Quality Photographs of designated landmark structures as directed by the Commissioner for submission to the New York City Landmarks Preservation Commission. Provide a minimum of four color photographic prints of each view as directed.

3.5 DVD RECORDING:

- A. When DVD Recording of Demonstration and Training sessions is required for Non-Commissioned projects the Contractor shall provide the services of a Videographer as indicated in Section 01 79 00, DEMONSTRATION AND OWNER'S PRE-ACCEPTANCE ORIENTATION.

3.6 FINAL COMPLETION CONSTRUCTION PHOTOGRAPHS:

- A. Take color photographs of minimum eight (8) unobstructed views of the completed project or project and site, as directed by the Commissioner and after all scaffolding, hoists, shanties, field offices or other temporary work has been removed and final cleaning is done after date of Substantial Completion for submission as Project Record Documents. Submit four (4) sets of each view of Presentation Quality photographic prints including negatives and/or digital images electronic file

END OF SECTION 01 32 33



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

Division 01 – DDC STANDARD GENERAL CONDITIONS
SINGLE CONTRACT PROJECTS
Issue Date - June 01, 2013

No Text

PHOTOGRAPHIC DOCUMENTATION
01 32 33 - 6



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

SECTION 01 33 00
SUBMITTAL PROCEDURES

PART I - GENERAL:

1.1 RELATED DOCUMENTS:

- A. The following documents apply to all required work for the Project: (1) the Contract Drawings, (2) the Specifications, (3) the General Conditions, (4) the Addendum, and (5) the Contract [City of New York Standard Construction Contract].

1.2 SUMMARY:

- A. This Section includes administrative and procedural requirements for submitting Shop Drawings, Coordination Drawings, Catalogue Cuts, Material Samples and other submittals required by the Contract Documents.
- B. Review of submittals does not relieve the Contractor of responsibility for any Contractor's errors or omissions in such submittals, nor from responsibility for complying with the requirements of the Contract.
- C. Responsibility of the Contractor: The approval of Shop Drawings will be general and shall not relieve the Contractor of responsibility for the accuracy of such Shop Drawings, nor for the proper fitting and construction of the work, nor of the furnishing of materials or work required by the Contract and not indicated on the Shop Drawings. Approval of Shop Drawings shall not be construed as approving departures from the Contract Drawings, Supplementary Drawings or Specifications.
- D. This Section includes the following:
1. Definitions
 2. Submission Procedures
 3. Coordination Drawings
 4. LEED Submittals
 5. Ultra Low Sulfur Diesel Fuel Reporting
 6. Construction Photographs and DVD Recordings
 7. As-Built Documents

1.3 RELATED SECTIONS: Include without limitation the following:

- | | | |
|----|------------------|--|
| A. | Section 01 10 00 | SUMMARY |
| B. | Section 01 31 00 | PROJECT MANAGEMENT AND COORDINATION |
| C. | Section 01 32 00 | CONSTRUCTION PROGRESS DOCUMENTATION |
| D. | Section 01 32 33 | PHOTOGRAPHIC DOCUMENTATION |
| E. | Section 01 77 00 | CLOSEOUT PROCEDURES |
| F. | Section 01 78 39 | CONTRACT RECORD DOCUMENTS |
| G. | Section 01 81 13 | SUSTAINABLE DESIGN REQUIREMENTS FOR LEED BUILDINGS |

1.4 DEFINITIONS:

- A. Refer to Article 2 of the Contract for definition of terms, words and expressions used in the General Conditions not otherwise defined herein.
- B. Design Consultant: "Design Consultant" shall mean the entity responsible for providing design services for the Project, including without limitation, preparing the construction documents (drawings and specifications) and providing services in connection with such documents during construction. The entity serving as the "Design Consultant" may be a corporation, firm, partnership, joint venture, individual or



- combination thereof. Such entity may be either an employee(s) of the City or an entity engaged by the City to provide such services.
- C. Submittals: Written and graphic information that requires responsive actions and includes without limitation all shop drawings, product data, letters of certification, tests and other information required for quality control and as required by the Contract Documents.
 - D. Informational Submittals: Written information that does not require responsive action. Submittals may be rejected for non-compliance with the Contract.
 - E. Shop Drawings: Include drawings, diagrams, illustrations, schedules, performance charts, brochures, and other data, except for coordination drawings, specifically prepared for the project by the Contractor or any subcontractor, manufacturer, supplier or distributor, which illustrates how specific portions of the work shall be fabricated and/or installed.
 - F. Coordination Drawings: As required in Section 01 31 00 PROJECT MANAGEMENT AND COORDINATION.
 - G. Product Data and Quality Assurance Submittals: Includes manufacturer's standard catalogs, pamphlets and other printed materials including without limitation the following:
 - 1. Catalogue and Product specifications
 - 2. Installation instructions
 - 3. Color charts
 - 4. Catalog cuts
 - 5. Rough-in diagrams and templates
 - 6. Wiring diagrams
 - 7. Performance curves
 - 8. Operational range diagrams
 - 9. Mill reports
 - 10. Design data and calculations
 - 11. Certification of compliance or conformance
 - 12. Manufacturer's instructions and field reports

1.5 COORDINATION DRAWINGS:

- A. The Contractor shall provide reproducible Coordination Drawing(s) of the reflective ceiling showing the integration of all applicable contract work, including general construction work as well as trade work (Plumbing, HVAC, and Electrical) to be performed by subcontractors. The Coordination Drawing(s) shall include, without limitation, the following information:
 - 1. General Construction work showing the reflective ceiling plan including starting points, ceiling and beam soffits elevations, ceiling heights, roof openings, etc.
 - 2. HVAC Contract work showing ductwork, heating and sprinkler piping, location of grilles, registers etc. and access doors in hung ceilings. Locations shall be fixed by elevations and dimensions from column centerlines and/or walls.
 - 3. Plumbing Contract work including piping, valves, cleanouts etc., indicating locations and elevations and shall indicate the necessary access doors.
 - 4. Electrical Contract work indicating fixtures, large conduit runs, clearances, pull boxes, junction boxes, sound system speakers, etc.
- B. The Contractor shall issue the completed Coordination Drawing(s) to the Resident Engineer for his/her review. The Resident Engineer may call as many meetings as necessary with the Contractor, including



attendance by applicable subcontractors, and may call on the services of the Design Consulting where necessary, to resolve any conflicts that become apparent.

- C. Upon resolution of any conflicts, the Contractor shall provide a final Coordination Drawing(s) which will become the Master Coordination Drawing(s). The Master Coordination Drawing(s) shall be signed and dated by the Contractor to indicate acceptance of the arrangement of the work.
- D. A reproducible copy of the Master Coordination Drawing(s) shall be provided by the Contractor to each of the appropriate subcontractor(s), the Resident Engineer and the Design Consultant for information.
- E. Shop Drawings shall not be submitted prior to acceptance of the final coordinated drawings and shall be prepared in accordance with the Master Coordination Drawing(s). No work will be permitted without accepted Shop Drawings. It is therefore essential that this procedure be instituted as quickly as possible.

1.6 SUBMITTAL PROCEDURES:

- A. Refer to Section 01 35 03 GENERAL MECHANICAL REQUIREMENTS and Section 01 35 06 GENERAL ELECTRICAL REQUIREMENTS for additional submittal requirements involving electrical and mechanical work or equipment of any nature called for the project.
- B. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.
 - 1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activities, with the Submittal Schedule specified in Section 01 32 00 CONSTRUCTION PROGRESS DOCUMENTATION.
 - 2. Coordinate transmittal of different types of submittals for related parts of the Work so processing will not be delayed because of need to review submittals concurrently for coordination.
 - 3. The Commissioner reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.
- C. Submittals Schedule: The Submittals Schedule is set forth in Schedule F, which is included in the Addendum.
- D. Identification: Place a permanent label or title block on each submittal for identification.
 - 1. Indicate name of firm or entity that prepared each submittal on label or title block.
 - 2. Provide a space approximately 6 by 8 inches on label or beside title block to record Contractor's review and approval markings and action taken by Design Consultant.
 - 3. Include the following minimum information on label for processing and recording action taken:
 - a. Project name, DDC Project Number and Contract Number
 - b. Date.
 - c. Name and address of Design Consultant.
 - d. Name and address of Contractor.
 - e. Name and address of subcontractor.
 - f. Name and address of supplier.
 - g. Name of manufacturer.
 - h. Submittal number or other unique identifier, including revision identifier.
 - i. Number and title of appropriate Specification Section.
 - j. Drawing number and detail references, as appropriate.
 - k. Location(s) where product is to be installed, as appropriate.
 - l. Other necessary identification.
- E. Transmittal:
 - 1. Package each submittal individually and appropriately for transmittal and handling. Transmit each submittal using a transmittal form in triplicate. Transmittals received from sources other than the



Contractor will be returned without review. Re-submission of the same drawings or product data shall bear the original number of the prior submission and the original titles.

2. Transmittal Form: Provide locations on form for the following information:
 - a. Project name, DDC Project number and Contract Number
 - b. Date.
 - c. Destination (To:).
 - d. Source (From:)
 - e. Names of Contractor, subcontractor, manufacturer, and supplier.
 - f. Category and type of submittal.
 - g. Submittal purpose and description.
 - h. Specification Section number and title.
 - i. Drawing number and detail references, as appropriate.
 - j. Transmittal number, numbered consecutively.
 - k. Submittal and transmittal distribution record.
 - l. Remarks.
 - m. Signature of transmitter.

F. Shop Drawings:

1. Procedures for Preparing, Forwarding, Checking and Returning all Shop Drawings shall be, generally, as follows:
 - a. The Contractor shall make available to its subcontractors the necessary Contract Documents and shall instruct such subcontractor to determine dimensions and conditions in the field, particularly with reference to coordination between the trade subcontractors. The Contractor shall direct its subcontractors to prepare Shop Drawings for submission to the Design Consultant in accordance with the requirements of these General Conditions. The Contractor shall also direct its subcontractors to "Ring Up" corrections made on all re-submissions for approval, so as to be readily seen, and that the symbol "sub" be used to identify the source of the correction or information that has been added.
- The Contractor shall:
1. Review and be responsible to the Commissioner, for information shown on its subcontractor's Shop and Installation drawings and manufacturers' data, and also for conformity to Contract Documents.
 2. "Ring Up" corrections made on all submissions for approval, so as to be readily seen, and that the symbol "GC", "PL", "HVAC" or "EL" be used to indicate that the correction and/or information added was made by the Contractor and/or its subcontractor(s).
 3. Clearly designate which entity is to perform the work when the term, "work by others" or other similar phrases are indicated on the Contract Drawings before submission to the Design Consultant.
 4. Stamp submissions "Recommended for Acceptance", date and forward to the Design Consultant.
2. The Contractor shall promptly prepare and submit project specific layout detail and Shop Drawings of such parts of the work as are indicated in the Specifications, Schedule F of the Addendum or as required. These Shop Drawings shall be made in accordance with the Contract Drawings, Specifications and Supplementary Drawings, if any. The Shop Drawings shall be accurate and distinct and give all the dimensions required for the fabrication, erection and installation of the work.
 3. Size of Drawings: The Shop Drawings, unless otherwise directed, shall be on sheets of the same size as the Contract Drawings, drawn accurately and of sufficient scale to be legible, with a one half (1/2) inch marginal space on each side and a two (2) inch marginal space for binding on the left side.



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

4. Scope of Drawings: Shop Drawings shall be numbered consecutively and shall accurately and distinctly represent all aspects of the work, including without limitation the following:
 - a. All working and erection dimensions.
 - b. Arrangements and sectional views.
 - c. Necessary details, including performance characteristics, and complete information for making necessary connections with other work.
 - d. Kinds of materials including thickness and finishes.
 - e. Identification of products.
 - f. Fabrication and installation drawings.
 - g. Roughing-in and setting diagrams.
 - h. Wiring diagrams showing field-installed wiring, including power, signal, and control wiring.
 - i. Shop work manufacturing instructions.
 - j. Templates and patterns.
 - k. Schedules.
 - l. Design calculations.
 - m. Compliance with specified standards.
 - n. Notation of coordination requirements.
 - o. Notation of dimensions established by field measurement.
 - p. Relationship to adjoining construction clearly indicated.
 - q. Seal and signature of professional engineer if specified.
 - r. Wiring Diagrams: Differentiate between manufacturer-installed and field-installed wiring.
 - s. All other information necessary for the work and/or required by the Commissioner.
5. Titles and Reference: Shop Drawings shall be dated and contain:
 - a. Name of the Project, DDC Project Number and Contract Number.
 - b. The descriptive names of equipment, or materials covered by the Contract Drawings and the classified item number or numbers, if any, under which it is, or they are required.
 - c. The locations or points and sequence at which materials, or equipment, are to be installed in the work.
 - d. Cross references to the section number, detail number and paragraph number of the Contract Specifications.
 - e. Cross references to the sheet number, detail number, etc., of the Contract Drawings.
6. Field Measurements: In addition to the above requirements, the Shop Drawings shall be signed by the Contractor and, if applicable, the subcontractor responsible for preparation of the Shop Drawings. Each Shop Drawing shall be stamped with the following wording:

FIELD MEASUREMENTS: The Contractor certifies that it has verified and supplemented the Contract Drawings by taking all required field measurements, which said measurements correctly reflect all field conditions and that this Shop Drawing incorporates said measurements.
7. Contractor's Statement with Submittal: Any Submittal by the Contractor for acceptance, including without limitation, all dimensional drawings of equipment, blueprints, catalogues, models, samples and other data relative to the equipment, the materials, the work or any part thereof, must be accompanied by a statement that the Submittal has been examined by the Contractor and that everything shown in the Submittal is in accordance with the requirements of the Contract Drawings and Specifications. If there is any discrepancy between what is shown in the Submittal and the requirements of the Contract Drawings and Specifications, the Contractor shall, in its statement, list and clearly describe each such discrepancy.

Acceptance will be given based upon the Contractor's representation that what is shown in the Submittal is in accordance with the requirements of the Contract Drawings and Specifications. If



the Contractor's statement indicates any discrepancy between what is shown in the Submittal and the requirements of the Contract Drawings and Specifications, such change is subject to review and prior written acceptance by the Design Consultant. In addition, such change may require a change order in accordance with Article 25 of the Contract. In the event any such change is approved, any additional expense or increased cost in connection with the change is the sole responsibility of the Contractor.

8. Submission of Shop Drawings:

- a. Initial Submission: The Contractor shall submit seven (7) copies of each Shop Drawing to the Design Consultant for his/her review and acceptance. The Design Consultant will transmit Shop Drawings to appropriate sub-consultants for review and acceptance, including Commissioning Authority/Agent as applicable. A satisfactory Shop Drawing will be stamped "No Exceptions Taken", be dated and distributed by the Design Consultant as follows:

- 1) Two (2) copies thereof will be returned to the Contractor by letter.
- 2) Three (3) copies of the approved Shop Drawing and copy of the transmittal letter to the Contractor will be forwarded to DDC.
- 3) One copy will be retained by the Design Consultant.
- 4) One copy will be forwarded / retained by sub-consultant(s) as appropriate.

Should the Shop Drawing(s) be "Rejected" or noted "Revise and Resubmit" by the Design Consultant, the Design Consultant will return the Shop Drawings to the Contractor with the necessary corrections and changes to be made as indicated thereon.

- b. Revisions: The Contractor must make such corrections and changes and again submit seven (7) copies of each shop drawing to the Design Consultant. The Contractor shall revise and resubmit the Shop Drawing as required by the Design Consultant until the Shop Drawings are stamped "No Exceptions Taken". However, Shop Drawings which have been stamped "Make Corrections Noted" shall be considered an "Acceptable" Shop Drawing and NEED NOT be resubmitted.
- c. Commencement of Work: No work or fabrication called for by the Shop Drawings shall be done until the acceptance of the said drawings by the Design Consultant is given. In addition to the foregoing Shop Drawing transmissions, a copy of any Shop Drawing prepared by any of the Contractor's subcontractors which Shop Drawing indicated work related to, adjacent to, impinging upon, or affecting work to be done by other subcontractors shall be transmitted to the subcontractors so affected. [These accepted Shop Drawings shall be distributed to the affected subcontractors when required with a copy of the transmittal to the Resident Engineer.]
- d. Variations: If the Shop Drawings show variations from the Contract requirements because of standard shop practice or other reasons, the Contractor shall make specific mention of such variations in its letter of submittal. Acceptance of the Shop Drawings shall constitute acceptance of the subject matter thereof only and not of any structural apparatus shown or indicated.

G. Product Data:

1. General: Except as otherwise prescribed herein, the submission, review and acceptance of Product Data and Catalogue cuts shall conform to the procedures specified in Sub-Section 1.6 F, Shop Drawings.
2. If information must be specially prepared for submittal because standard printed data are not suitable for use, submit as Shop Drawings, not as Product Data.
3. Mark each copy of each submittal to show which products and options are applicable.
4. Include the following information, as applicable:



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

- a. Manufacturer's written recommendations.
 - b. Manufacturer's product specifications.
 - c. Manufacturer's installation instructions.
 - d. Standard color charts.
 - e. Manufacturer's catalog cuts.
 - f. Wiring diagrams showing factory-installed wiring.
 - g. Printed performance curves.
 - h. Operational range diagrams.
 - i. Mill reports.
 - j. Standard product operation and maintenance manuals.
 - k. Compliance with specified referenced standards.
 - l. Testing by recognized testing agency.
 - m. Application of testing agency labels and seals.
 - n. Notation of coordination requirements.
5. Submit Product Data before or concurrent with Samples.
6. Submission of Product Data:
- a. Initial Submission: The Contractor shall submit seven (7) sets of Product Data to the Design Consultant for his/her review and acceptance. The Design Consultant will transmit Product Data to appropriate sub-consultants for review and acceptance, including Commissioning Authority/Agent as applicable. A satisfactory catalogue cut will be stamped "No Exception Taken", be dated and distributed as follows:
 - 1) Two (2) copies thereof will be returned to the Contractor by letter.
 - 2) Three (3) copies of the Product Data and copy of the transmittal letter to the Contractor will be forwarded to DDC
 - 3) One copy will be retained by the Design Consultant.
 - 4) One copy will be forwarded / retained by sub-consultant(s) as appropriate.Should the Product Data be "Rejected" or noted "Revise and Resubmit" by the Design Consultant, the Design Consultant will return one (1) set of such Product Data to the Contractor with the necessary corrections and changes to be made indicated and one (1) set to DDC.
7. Revisions: The Contractor must make such corrections and changes and again submit seven (7) copies of each Product Data for the review of the Design Consultant. The Contractor shall revise and resubmit the Product Data as required by the Design Consultant until the submission is stamped "No Exceptions Taken" by the Design Consultant. However, Product Data which has been stamped "Make Corrections Noted" shall be considered an "Accepted" Product Data and NEED NOT be resubmitted.
- H. Samples of Materials:
1. For samples of materials involving electrical work of any nature, refer to Section 00 35 06 - General Electrical Requirements.
 2. Samples shall be in triplicate, of sufficient size to show the quality, type, range of color, finish and texture of the material.
 3. Each of the samples shall be labeled as follows:
 - a. Name of the Project, DDC Project Number and Contract Number.
 - b. Name and quality of the material.
 - c. Date.



- d. Name of Contractor, subcontractor, manufacturer and supplier.
- e. Related Specification or Contract Drawing reference to the samples submitted.
- 4. A letter of transmittal, in triplicate, from the Contractor requesting acceptance must accompany all such samples.
- 5. Transportation charges to the Design Consultant's office must be prepaid on all samples forwarded.
- 6. Samples for testing purposes shall be as required in the Specifications.
- 7. Samples on Display: When samples are specified to be equal to approved product, they shall be carefully examined by the Contractor and by those whom the Contractor expects to employ for the furnishing of such materials.
- 8. Timely Submissions Log/Schedule: Samples shall be submitted in accordance with approved Shop Drawing log so as to permit proper consideration without delaying any operation under the project. Materials should not be ordered until acceptance is received, in writing, from the Design Consultant. All materials shall be furnished equal in every respect to the accepted samples.
- 9. The Acceptance of any samples will be given as promptly as possible, and shall be only for the characteristic color, texture, strength, or other feature of the material named in such approval, and no other. When this approval is issued by the Design Consultant, it is done with the distinct understanding that the materials to be furnished will fully and completely comply with the Specifications, the determination of which may be made at some later date by a laboratory test or by other procedure. Use of materials will be permitted only so long as the quality remains equal to the approved samples and complies in every respect with the Specifications, and the colors and textures of the samples on file in the office of the Design Consultant, for the project.
- 10. Acceptability of test Data: The Commissioner will be the final judge as to acceptability of laboratory test data and performance in service of materials submitted.
- 11. Valuable Samples: Valuable samples, such as hardware, plumbing and electrical fixtures, etc., not destroyed by inspection or test, will be returned to the Contractor and may be incorporated into the work after all questions of acceptability have been settled, providing suitable permanent records are made as to the location of the samples, their properties, etc.
- 12. Equivalent Quality: Any material, article and/or equipment which is designated in the Drawings and/or Specifications by a number in the catalogue of any manufacturer or by a manufacturer's grade or trade name is designated for the purpose of describing the material, article and/or equipment and fixing the standard of performance and/or function, as well as the quality and/or finish. Any material, article and/or equipment which is other than what is specified in the Drawings and/or Specifications will only be accepted if the Commissioner makes a written determination that such material, article and/or equipment is equivalent to that which is specified in the Drawings and/or Specifications.
- 13. The submission of any material, article and/or equipment as the equal of any material, article and/or equipment set forth in the Drawings and/or Specifications as a standard shall be accompanied by any and all information essential for determining whether such proposed material, article and/or equipment is equivalent to that which is specified. Such information shall include, without limitation, illustrations, drawings, descriptions, catalogues, records of tests, samples, as well as information regarding the finish, durability and satisfactory use of such proposed material, article and/or equipment under similar operating conditions.



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 1.7

1.7 LEED SUBMITTALS:

- A. Comply with submittal requirements specified in Section 01 74 19, CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL; Section 01 81 13, SUSTAINABLE DESIGN REQUIREMENTS FOR LEED BUILDINGS; Section 01 81 13.13, VOLATILE ORGANIC COMPOUND (VOC) LIMITS FOR ADHESIVES, SEALANTS, PAINTS AND COATINGS FOR LEED BUILDINGS; Section 01 81 19, INDOOR AIR QUALITY REQUIREMENTS FOR LEED BUILDINGS and Section 01 91 13, GENERAL COMMISSIONING REQUIREMENTS.
- B. LEED Building submittal information shall be assembled into one package per each applicable specification section, separate from all other non-LEED submittals. Each submittal package shall have a separate transmittal and identification as described in Sub-Section 1.6 herein.
- C. Number of Copies: Submit FOUR (4) copies of LEED submittals, in accordance with procedure described in Sub-Section 1.6 herein, unless otherwise indicated.
 - 1. LEED Submittals shall be clearly marked "LEED".
- D. Material Safety Data Sheets (MSDSs) for LEED Certification: Submit information necessary to show compliance with LEED certification requirements, which will be the limit of the Design Consultant's review for LEED compliance.
 - 1. Designated LEED submittals that include non-LEED MSDS data will not be reviewed. The entire submittal will be returned for re-submission.
- E. Product Cut Sheets and/or Shop Drawings for LEED Certification: Provide product cut sheets and/or shop drawings with the Contractor's or sub-contractor's stamp, confirming that the submitted products are the products installed in the Project. For detailed requirements refer to Sub-Section 1.6 of Section 01 81 13 SUSTAINABLE DESIGN REQUIREMENTS FOR LEED PROJECTS.
 - 1. Provide the quantity, length, area, volume, weight, and/or cost of each product submitted as required to satisfy LEED documentation requirements. Refer to Sub-Section 1.6 of Section 01 81 13 SUSTAINABLE DESIGN REQUIREMENTS FOR LEED PROJECTS.

1.8 ULTRA LOW SULFUR DIESEL FUEL AND BEST AVAILABLE TECHNOLOGY REPORTING:

- A. In accordance with Section 01 10 00 Summary, Sub-Section 1.5 E, the Contractor shall submit reports to the Commissioner regarding the use of Ultra Low Sulfur Diesel Fuel and Best Available Technology (BAT) in Non road Vehicles. Submission of such reports shall be in accordance with the schedule, format, directions and procedures established by the Commissioner.

1.9 CONSTRUCTION PHOTOGRAPHS AND DVD RECORDINGS:

- A. Submit construction progress photographs and DVD recordings in accordance with requirements of Section 01 32 33, PHOTOGRAPHIC DOCUMENTATION

1.10 AS-BUILT DOCUMENTS:

- A. Submit all as-built documents in accordance with Section 01 78 39 CONTRACT RECORD DOCUMENTS.



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

Division 01 – DDC STANDARD GENERAL CONDITIONS
SINGLE CONTRACT PROJECTS
Issue Date - June 01, 2013

PART II – PRODUCTS (Not Used)

PART III – EXECUTION (Not Used)

END OF SECTION 01 33 00



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

SECTION 01 35 03

GENERAL MECHANICAL REQUIREMENTS

REFER TO THE ADDENDUM FOR APPLICABILITY OF THIS SECTION 01 35 03

PART I – GENERAL

1.1 RELATED DOCUMENTS:

- A. The following documents apply to all required work for the Project: (1) the Contract Drawings, (2) the Specifications, (3) the General Conditions, (4) the Addendum, and (5) the Contract [City of New York Standard Construction Contract].

1.2 SUMMARY:

- A. The General Mechanical Requirements contained herein shall be followed by the Contractor, as well as its subcontractor for HVAC work. This Section sets forth the General Requirements applicable to mechanical work for the Project. Such requirements are intended to be read in conjunction with the Specifications and Contract Drawings for the Project. In the event of any conflict between the requirements set forth in this Section and the requirements of the Specifications and/or the Contract Drawings, whichever requirement is the most stringent, as determined by the Commissioner, shall take precedence.

1.3 RELATED SECTIONS: Include without limitation the following:

- A. Section 01 10 00 SUMMARY
- B. Section 01 33 00 SUBMITTAL PROCEDURES
- C. Section 01 35 06 GENERAL ELECTRICAL REQUIREMENTS
- D. Section 01 42 00 REFERENCES
- E. Section 01 77 00 CLOSEOUT PROCEDURES
- F. Section 01 78 39 CONTRACT RECORD DOCUMENTS

1.4 DEFINITIONS:

- A. CONCEALED PIPING AND DUCTS -: shall mean piping and ducts hidden from sight in masonry or other construction, in floor fill, trenches, partitions, hung ceilings, furred spaces, pipe shafts and in service tunnels not used for passage. Where piping and ducts run in areas that have hung ceilings, such piping and ducts shall be installed in the hung ceilings. For work on existing piping any insulation on such existing piping is to be tested for asbestos and abated, if found to be positive by a certified asbestos contractor. Such testing and abatement shall occur prior to the performance of any work on these pipes.

1.5 SUBMITTALS:

- A. INTENT OF MECHANICAL CONTRACT DRAWINGS – Mechanical Contract Drawings are in part diagrammatic and show the general arrangement of the equipment, ducts and piping included in the Contract and the approximate size and location of the equipment.
- B. The Contractor shall follow these Contract Drawings in laying out the work and verify the spaces in which it will be installed. The Contractor shall submit, as directed, Mechanical Shop Drawings, roughing drawings, manufacturer's Shop Drawings, field drawings, cuts, bulletins, etc., of all materials, equipment and methods of installation shown or specified in accordance with Section 01 33 00 SUBMITTAL PROCEDURES.



1. Submit sheet metal shop standards. Submit manufacturer's product data including gauges, materials, types of joints, scaling materials and installations for metal ductwork materials and products.
2. Submit scaled layout drawing (3/8"=1') of metal ductwork and fittings including, but not limited to, duct sizes, locations, elevations, slopes of horizontal runs, wall and floor penetrations and connections. Show modifications of indicated requirements made to conform to local shop practice and how those modifications ensure that free area, materials and rigidity are not reduced. Layouts should include all the room plans, mechanical equipment rooms and penthouses. Method of attachment of duct hangers to building construction all with the support details. Coordinate shop drawings with related trades prior to submission.
3. Indicate duct fittings, particulars such as gauges, sizes, welds and configuration prior to start of work for low-pressure systems.
4. Submit maintenance data and parts lists for metal ductwork materials and products. Include this data, product data and shop drawings in maintenance manual.

1.6 ACCESSIBILITY:

All work shall be installed by the Contractor so as to be readily accessible for inspection, operation, maintenance and repair. Minor deviations from the arrangement indicated on the Contract Drawings may be made to accomplish this, but they shall not be made without approval by the Commissioner.

1.7 CHANGES IN PIPING, DUCTS, AND EQUIPMENT:

Wherever field conditions are such that for proper execution of the work, reasonable changes in location of piping, ducts and equipment are necessary and required, the Contractor shall make such changes as directed and approved, without extra cost to the City.

1.8 CLEANING OF PIPING, DUCTS, AND EQUIPMENT:

Piping, ducts and equipment shall be thoroughly cleaned by the Contractor of all dirt, cuttings and other foreign substances. Should any pipe, duct or other part of the several systems be obstructed by any foreign matter, the Contractor will be required to pay for disconnecting, cleaning and reconnecting wherever necessary for the purpose of locating and removing obstructions. The Contractor shall pay for repairs to other work damaged in the course of removing obstructions. For work on existing piping, ducts and equipment the Contractor shall pay special attention during this task so as not to disturb the insulation on such piping, ducts or equipment.

1.9 STANDARDIZATION OF SIMILAR EQUIPMENT:

Unless otherwise particularly specified, all equipment of the same kind, type or classification, and used for identical purposes, shall be the product of one (1) manufacturer.

1.10 SUPPORTING STRUCTURES DESIGNED BY THE CONTRACTOR:

Unless otherwise specified, supporting structures for equipment to be furnished by the Contractor shall be designed by an Engineer licensed in New York State retained by the Contractor. Supporting structures shall be built by the Contractor of sufficient strength to safely withstand all stresses to which they may be subjected, within permissible deflections, and shall meet the following standards:

- A. Structural Steel - ASTM Standard Specifications, AISC and New York City Construction Codes.



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

- B. Concrete for supports for equipment shall conform to the Specifications for concrete herein, but in no case shall be less than the requirements of the New York City Construction Codes for average concrete.
- C. Steel reinforcement for concrete shall be of intermediate grade and shall meet the requirements of the Standard Specifications for Billet Steel-Concrete Reinforcement Bars, ASTM.
- D. Drawings and calculations shall be submitted for review and acceptance in accordance with Section 01 33 00 SUBMITTAL PROCEDURES.

1.11 ELIMINATION OF NOISE:

- A. All systems and/or equipment provided under the Contract shall operate without objectionable noise or vibration.
- B. Should operation of any one or more of the several systems produce noise or vibration which is, in the opinion of the Commissioner, objectionable, the Contractor shall at its own expense make changes in piping, equipment, etc. and do all work necessary to eliminate objectionable noise or vibration.
- C. Should noise or vibration found objectionable by the Commissioner be transmitted by any pipe or portions of the structure from systems and/or equipment installed under the Contract, the Contractor shall at its own expense install such insulators and make such changes in or additions to the installations as may be necessary to prevent transmission of this noise or vibration.

1.12 PRELIMINARY FIELD TEST:

As soon as conditions permit, the Contractor shall furnish all necessary labor and materials for, and shall make, preliminary field tests of the equipment to ascertain compliance with the requirements of the Contract. If the preliminary field tests disclose equipment that does not comply with the Contract, the Contractor shall, prior to the acceptance test, make all changes, adjustments and replacements required.

1.13 INSTRUCTIONS ON OPERATION:

At the time the equipment is placed in permanent operation by the City, the Contractor shall make all adjustments and tests required by the Commissioner to prove that such equipment is in proper and satisfactory operating condition. The Contractor shall instruct the City's operating personnel on the proper maintenance and operation of the equipment for the period of time called for in the Specifications.

1.14 CERTIFICATES:

On completion of the work, the Contractor shall obtain certificates of inspection, approval, acceptance and of compliance with all laws from all agencies and/or entities having jurisdiction over the work and shall deliver these certificates to the Commissioner in accordance with Section 01 77 00 CLOSEOUT PROCEDURES. The work shall not be deemed substantially complete until the certificates have been delivered.

PART II – PRODUCTS (Not Used)

PART III – EXECUTION (Not Used)

END OF SECTION 01 35 03



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

Division 01 – DDC STANDARD GENERAL CONDITIONS
SINGLE CONTRACT PROJECTS
Issue Date - June 01, 2013

No Text

GENERAL MECHANICAL REQUIREMENTS
01 35 03 - 4



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

SECTION 01 35 06
GENERAL ELECTRICAL REQUIREMENTS

PART I – GENERAL

1.1 RELATED DOCUMENTS:

- A. The following documents apply to all required work for the Project: (1) the Contract Drawings, (2) the Specifications, (3) the General Conditions, (4) the Addendum, and (5) the Contract [City of New York Standard Construction Contract].

1.2 SUMMARY:

- A. This Section sets forth the General Requirements applicable to electrical work for the Project. Such requirements are intended to be read in conjunction with the Specifications and Contract Drawings for the Project. In the event of any conflict between the requirements set forth in this Section and the requirements of the Project Specifications and/or the Contract Drawings, whichever requirement is the most stringent, as determined by the Commissioner, shall take precedence.
- B. This Section includes the following:
1. Procedure for Electrical Approval
 2. Submittals
 3. Electrical Installation Procedures
 4. Electrical Conduit System Including Boxes (Pull, Junction and Outlet)
 5. Electrical Wiring Devices
 6. Electrical Conductors and Terminations
 7. Circuit Protective Devices
 8. Distribution Centers
 9. Motors
 10. Motor Control Equipment
 11. Schedule of Electrical Equipment

1.3 RELATED SECTIONS: Include without limitation the following:

- | | | |
|----|------------------|---------------------------------|
| A. | Section 01 10 00 | SUMMARY |
| B. | Section 01 33 00 | SUBMITTAL PROCEDURES |
| C. | Section 01 35 03 | GENERAL MECHANICAL REQUIREMENTS |
| D. | Section 01 42 00 | REFERENCES |
| E. | Section 01 77 00 | CLOSEOUT PROCEDURES |
| F. | Section 01 78 39 | CONTRACT RECORD DOCUMENTS |

1.4 DEFINITIONS:

- A. **WIRING:** means both wire and raceway (rigid steel, heavy wall conduit unless specifically indicated otherwise).
- B. **POWER WIRING:** means wiring from a panel board or other specified source to a starter (if required) then to a disconnect (if required), then to the final point of usage such as a motor, unit or device.
- C. **CONTROL and/or INTERLOCK WIRING:** means that wiring that signals the device to operate or shut down in response to a signal from a remote control device such as a temperature, smoke, pressure, float,



etc. device (starters and disconnect switches are not included in this definition) regardless of the voltage required for the controlling device.

- D. **RIGID STEEL CONDUIT:** shall mean rigid steel, heavy wall conduit that is hot dipped galvanized inside and outside. The conduit shall meet the requirements of the latest edition, as amended, of the "Standard for Rigid Steel Conduit" of the Underwriters' Laboratories, Inc. Unless otherwise specified in the Specifications or indicated on the Contract Drawings, rigid steel conduit shall be used for all exposed work, for all underground conduits in contact with earth and for fire alarms systems, as required by the New York City Construction Codes.
- E. **ELECTRICAL METALLIC TUBING (EMT):** shall mean industry standard thin wall conduit of galvanized steel only. All elbows, bends, couplings and similar fittings which are installed as a part of the conduit system shall be compatible for use with electric metallic tubing. Couplings and terminating fittings shall be of the pressure type as approved by the Commissioner. Set screw fittings will not be acceptable. EMT shall meet the requirements of the latest edition, as amended, of the "Standard for Electrical Metallic Tubing of the Underwriters Laboratories Inc." EMT may only be used where specifically indicated. In no case will EMT be permitted in spaces other than hung ceilings and dry wall partitions.
- F. **FLEXIBLE METALLIC CONDUIT (FMC):** Shall mean a conduit made through the coiling of a self-interlocking ribbed strip of aluminum or steel, forming a hollow tube through which wires can be pulled. For final connections to motors and motorized equipment, not more than a 4' - 0" length of flexible conduit may be used. For watertight installations, this conduit shall be of a watertight type, attached with watertight glands or fittings for final connections from outlet box to recessed lighting fixtures and in locations only where specifically permitted by the Specifications or Contract Drawings.

1.5 PROCEDURE FOR ELECTRICAL APPROVAL:

This Sub-Section sets forth General Electrical information, as well as required approvals for all electrical work required for the Project, including ancillary electrical work which may be included in the work of other trade subcontractors.

- A. **ELECTRIC SERVICE:** The electric service supply is subject to commercial and operating variation of the utility company. Proper provision shall be made to have all apparatus operate normally under these conditions.
- B. **ACCEPTANCE:** Acceptance and approval of the work will be contingent upon the inspection and test of the installation by the City regulatory agency.
- C. **TESTS:** The Contractor shall notify the Commissioner when the Contractor has completed the work and is ready to have it inspected and tested. Upon completion of the work tests shall be made as required by the Commissioner of all electrical materials, electrical and associated mechanical equipment, and of appliances installed hereunder. The Contractor shall furnish all labor and material for such tests. Should the tests show that any of the material, appliances or workmanship is not first class or not in compliance with the Contract, the Contractor on written notice shall remove and promptly replace them with other materials in conformity with the Contract.
- D. **CERTIFICATE OF THE BUREAU OF ELECTRICAL CONTROL, OF THE DEPARTMENT OF BUILDINGS (B.E.C.):** The Contractor must file prior to requesting a substantial completion inspection a Certificate of Inspection issued by B.E.C. On completion of the work the Contractor shall obtain certificates of inspection, approval, acceptance and compliance from all agencies and/or entities having jurisdiction over the work and shall deliver these certificates to the Commissioner in accordance with Section 01 77 00 CLOSEOUT PROCEDURES.
- E. **RESPONSIBILITY FOR CARE AND PROTECTION OF EQUIPMENT:**
 - 1. The Contractor furnishing any equipment shall be responsible for the equipment until it has been finally inspected, tested and accepted, in accordance with the requirements of the Contract.



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

2. After delivery and before and after installation, the Contractor shall protect all equipment against theft, injury or damage from all causes. The Contractor shall carefully store all equipment received for work, which is not immediately installed. If any equipment has been subject to possible injury by water, it shall be thoroughly dried out and put through a special dielectric test as directed by the Commissioner, at the expense of the Contractor or replaced by the Contractor without additional cost to the City.
- F. **UNIFORMITY OF EQUIPMENT:** Any two (2) or more pieces of equipment, apparatus or materials of the same kind, type or classification which are intended to be used for identical types of service, shall be made by the same manufacturer.

1.6 SUBMITTALS:

A. **CONTRACTOR'S ELECTRICAL DRAWINGS AND SAMPLES FOR APPROVAL:**

1. The Contractor shall submit to the Commissioner for approval, in accordance with Section 01 33 00 SUBMITTAL PROCEDURES, complete dimensional drawings of all equipment, wiring diagrams, motor test data, details of control, installation layouts showing all details and locations and including all schedules, and descriptions and supplementary data to comprise complete working drawings and instructions for the performance of the work. A description of the operation of the equipment and controls shall be included. A letter, in triplicate, shall accompany each submittal.
2. The Contractor shall submit in accordance with Section 01 33 00 SUBMITTAL PROCEDURES, duplicate samples of such materials and appliances as may be requested by the Commissioner for approval. These samples shall be properly tagged for identification and submitted for examination and test. After the samples are approved, one (1) sample will be returned to the Contractor and the other sample will be filed in the office of the Commissioner's representative for inspection use. After the Contract is completed, the second set of samples will be returned to the Contractor.

- B. **TIMELINESS:** All material shall be submitted in accordance with the submittal schedule in sufficient time for the progress of construction. Failure to promptly submit acceptable samples and dimensional drawings of equipment will not be accepted as grounds for an extension of time. The Commissioner may decline to consider submittals unless all related items are submitted at the same time.
- C. **CONTRACTOR'S STATEMENT WITH SUBMITTALS:** Contractor shall submit statement in accordance with Section 01 33 00, SUBMITTAL PROCEDURES.
- D. **BULLETINS AND INSTRUCTIONS:** The Contractor shall furnish and deliver to the Commissioner in accordance with Section 01 78 39, CONTRACT RECORD DOCUMENTS and Section 01 77 00, CLOSEOUT PROCEDURES, after acceptance of the work, four (4) complete sets of instructions, technical bulletins and any other printed matter (diagrams, prints, or drawings) required to provide complete information for the proper operation, maintenance and repair of the equipment and the ordering of spare parts.

PART II – PRODUCTS (Not Used)



PART III – EXECUTION

3.1 ELECTRICAL INSTALLATION PROCEDURES:

This Sub-Section sets forth the General Installation Procedure that shall apply to all electrical work and electrical equipment appearing in the Contract.

(Refer to Sub-Section 1.4 DEFINITIONS for terms used in this section)

- A. **INTENT OF CONTRACT DOCUMENTS:** The Drawings and Specifications are to be interpreted as a means of conveying the scope and intent of the work without giving every minor electrical detail. It is intended, nevertheless, that the Contractor shall provide whatever labor and materials are found necessary, within the scope of the Contract, for the successful operation of the installation. Specific details of individual installations are to be finally decided upon when the Contractor submits Working or Shop Drawings for approval to DDC. Whenever there are two (2) or more methods to complete project work within the Contract scope, the Commissioner reserves the right to choose that method which, in the Commissioner's opinion, will afford the most satisfactory performance, lasting qualities, and accessibility for repairs, even though this selection is the most costly.
- B. **SCHEMATIC PLANS – APPROXIMATE LOCATIONS:** Conduits and wiring are shown on the plans for diagrammatic purposes only. Therefore, conduit layouts may not necessarily give the actual physical route of the conduits. The Contractor who installs a conduit system will also be required, as part of the work, to furnish and install all hangers and pull-boxes, including any special pull-boxes found necessary to overcome interferences, and to facilitate the pulling of electrical cables. Similarly, the locations of equipment, appliances, outlets and other items shown on Contract Drawings are only approximate and are to be definitively established when equipment Shop Drawings are submitted and approved by DDC during construction.
- C. **SLEEVES:** required for conduits passing through walls or floors, shall be furnished and set by the Contractor installing the conduits. Sleeves in waterproofed floors shall be provided with flashing extending 12 inches in all directions from sleeve and secured to waterproofing. Flashing shall be turned down into space between pipe and sleeve and caulked watertight. Flashing shall be 20 oz. cold rolled copper. Sleeves shall be supplied with welded flanges similar to those supplied by the subcontractor for Plumbing Work and shall extend one (1) inch above finished floor.
- D. **COORDINATION:** The Contractor shall keep in close touch with the construction progress and obtain the necessary information for the accurate placement of its work in ample time before project construction operations obstruct its work. The Contractor is to consult all other Contract Drawings, as well as approved equipment Shop Drawings on file in the Resident Engineer's Field Office. This will aid in avoiding interferences, omissions and errors in the electrical installation.
- E. **RESTORATION:** If drilling or cutting is done on finished surfaces of equipment or the structure, any marring of the surface shall be repaired or replaced by the Contractor. The Contractor shall be held responsible for corrective restoration due to its cutting or drilling, and for any damage to the project or its contents caused by the Contractor or the Contractor's workers. If any piercing of waterproofing occurs because of the installation of the work, the Contractor shall restore the waterproofing, at its own expense, to the satisfaction of the Commissioner.
- F. **ELECTRICAL WORK AT SITE:** The Contractor furnishing equipment consisting of a number of related electrical devices or appliances, mounted in a single enclosure, or on a common base, shall furnish this unit complete with internal wiring, connections, terminal boxes with copper connectors and/or lugs and ample electrical leads, ready for connection and operation. The cost of any wiring, re-wiring or other work required to be done on this unit in the field, shall be borne by the Contractor, without additional cost to the City.
- G. **COOPERATION AMONG SUBCONTRACTORS:** Whenever an electrically operated unit or system involves the combined work of several subcontractors for its installation and successful operation, the



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

Contractor shall require each subcontractor to exercise the utmost diligence in cooperating with others to produce a complete, harmonious installation.

REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 3.2

3.2 ELECTRICAL CONDUIT SYSTEM INCLUDING BOXES (PULL, JUNCTION AND OUTLET):

This Sub-Section sets forth the requirements applying to the installation of electrical conduits, boxes or fittings. Rigid steel conduit shall be used throughout, unless otherwise directed by the Commissioner. Where the word 'conduit', without a modifier such as, rigid steel, EMT, etc., is specified to be used, it shall be interpreted to mean, rigid steel, heavy wall, threaded conduit.

(Refer to Sub-Section 1.4 DEFINITIONS for terms used in this section)

A. INSTALLATIONS AND APPLICATIONS:

1. Unless otherwise specified or indicated on the Contract Drawings, conduit runs shall be installed concealed in finished spaces.
2. **CONDUIT SIZES:** The sizes of conduit shall be as indicated on the Contract Drawings. Wherever conduit sizes are not indicated, the conduit shall meet the requirements of the New York City Electrical Code to accommodate the conductors to be installed therein.
3. Conduits shall be reamed smooth after cutting. No running threads will be permitted. Universal type couplings shall be used where required. Conduit joints shall be screwed up to butt. Empty conduits after installation shall have all open ends temporarily plugged to prevent the entrance of water or other foreign matter.
4. Conduits being installed in concrete or masonry shall be securely held in place during pouring and construction operations. A group of conduits terminating together shall be held in place by a template.
5. **UNDERGROUND STEEL CONDUITS:** Unless otherwise specified, all underground steel conduits in contact with earth shall be encased by the Contractor who installs them, in a covering of not less than two (2) inches of an approved concrete mixture. Concrete mix shall be one (1) part cement to four and one-half (4 ½) parts of fine and coarse aggregate.
6. **EXCAVATION RESTORATION PERMITS:** When installing underground conduits, duct banks or manholes the Contractor shall perform the work of cutting pavement, excavation shoring, keeping trenches or holes pumped dry, backfilling, restoration of surfaces to original condition and removal of excess earth and rubbish from premises. During the work, the Contractor shall provide adequate crossovers, protective barriers, lamps, flags, etc., to safeguard traffic and the public. When the work is in a public highway or street, the Contractor shall secure and pay for all necessary permits and inspection fees and pay the cost of repaving.
7. **EXPOSED CONDUIT SUPPORTS:** Exposed conduit shall be supported by Galvanized hangers with necessary inserts, beam clamps of approved design or attached to walls or ceilings by expansion bolts. Exposed conduits shall be supported or fastened at intervals not more than five (5) feet.
8. Exposed conduit shall be installed parallel or at right angles to ceiling, walls and partitions. Where direction changes of exposed conduit cannot be made with neat bends, such as required around beams or columns, conduit type fitting shall be used.



9. The conduit shall be installed with an approved expansion joint:
 - a. Wherever the conduit crosses a building expansion joint the Contractor will be held responsible for determining where the building expansion joints are located.
 - b. Every 200 feet, when in straight runs of 200 feet or longer.
 10. Conduit may only enter and leave a floating slab in the vertical direction, and then only in an approved manner. Horizontal entries into floating slabs are not permitted.
 11. Conduit installed in pipe shafts shall be properly supported to carry the total weight of the raceway system complete with cable. In addition at least one (1) horizontal brace per 10 ft. section shall be provided to assure stability of the raceway system.
 12. BUSHINGS AND LOCKNUTS: Approved bushings and locknuts shall be used wherever conduits enter outlet boxes, switch boxes, pull boxes, panel board cabinets, etc.
 13. CONDUIT BENDS: shall be made without kinking conduit or appreciably reducing the internal diameter. All bends in conduit of two (2) inch in diameter or larger shall be made with an hydraulic or power pipe bender. The radius of the inner edge of any bend shall not be less than six (6) times the internal diameter of the conduit where rubber covered conductors are to be installed, and not less than 10 times the internal diameter of the conduit where lead covered conductors are to be used. Long gradual sweeps will be required, rather than sharp bends, when changes of direction are necessary.
 14. EMPTY CONDUITS
 - a. TESTS: All conduits and ducts required to be installed and left empty shall be tested for clear bore and correct installation by the Contractor using a ball mandrel and a brush and snake before the installation will be accepted. The ball shall be turned to approximately 85% of the internal diameter of the raceway to be tested. Two (2) short wire brushes shall be included in the mandrel assembly. Snaking of conduits, ducts, etc., shall be performed by the Contractor in the presence of the Resident Engineer. Any conduits or ducts which reject the mandrel shall be cleared at once with the Contractor bearing all costs, such as chopping concrete, to replace the defective conduit and restore the surface to its original condition.
 - b. TAGS: Numbers or letters shall be assigned to the various conduit runs, and as they test clear they shall be identified by a fiber tag not less than 1-1/4 inch width, attached by means of a nylon cord. All conduit terminations in panel, splice or pull boxes as well as those out of the floor or ceiling shall be tagged.
 - c. TEST RECORDS: As the conduit runs clear, a record shall be kept under the heading of "Empty Conduit Tested, Left Clear, Tagged and Capped" showing conduit designation, diameter, location, date tested and by whom. When complete, this record shall be signed by the Resident Engineer and submitted in triplicate for approval. This record shall be entered on the Contract Record Drawings under Section 01 78 39, CONTRACT RECORD DOCUMENTS.
 - d. CAPPING: All empty conduit and duct openings, after test, shall be capped or plugged by the Contractor as directed.
 - e. DRAG LINES: A drag line shall be left in all empty conduit.
- B. BOXES:
1. The Contractor shall furnish and erect all pull boxes indicated on the plans or where required. Sides, top and bottom of pull boxes shall be Galvanized coated and shall be built of No. 12 USSG steel reinforced at corners by substantial angle irons and riveted or welded to plates. Bottom or side



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

of pull boxes shall be removable and held in place by corrosion resistant machine screws. Pull boxes in damp locations shall have threaded hubs and gaskets and be NEMA 4X. All pull boxes shall be suspended from ceiling or walls in the most substantial manner.

2. In centering outlets, the Contractor is cautioned to allow for overhead pipes, ducts and other obstructions, and for variations in arrangement and thickness of fireproofing, soundproofing and plastering. Precaution should be exercised regarding the location of window and door trims, paneling, etc. Mistakes resulting from failure to exercise precaution must be corrected by the Contractor at no additional cost to the City. Outlets in hung ceilings shall be supported from the black iron or structure.
3. The exact location of all outlets in finished rooms shall be as directed. When the interior finish has been applied, the Contractor shall make any necessary adjustment of its work to properly center the outlets. All outlet boxes for local switches near doors shall be located at the strike side of doors as finally hung, whether so indicated on the drawings or not.
4. Exposed wall outlet boxes shall be erected neatly and tight against the walls and securely anchored to same.
5. All wall outlets of each type shall be set accurately at the same level on each floor, except where otherwise specified or directed. Where special conditions occur, outlets shall be located as directed.
6. MOUNTING HEIGHTS: The following heights are standard heights and are subject to correction due to coordination with Contract Drawings. All such changes must be approved by the Resident Engineer. Heights given are from finished floor to center line of outlet or device on wall or partition, unless otherwise indicated.
 - a. General Convenience Outlets
(mount vertical) 1'-6"
 - b. Clock Outlets 8'-6" or 1'-6" below ceiling
 - c. Wall Lighting Switches 4'-0"
 - d. Motor Controllers 5'-0"
 - e. Motor Push-button 4'-2"
 - f. Telephone Outlets As Directed
 - g. Fire Alarm Bells 8'-6" or 1'-6" below ceiling
 - h. Fire Alarm Stations 4'-0"
 - i. Intercom Outlet 1'-6"
 - j. Cooking and Refrigerator Unit As Directed
7. Outlet boxes shall be of approved design and construction; of form and dimensions suited and adapted to its specific location; the kind of fixture to be used and the number and arrangements of conduits, etc., connecting therewith. All ferrous outlet boxes shall meet the requirements for zinc coating as specified under Electrical Conduit Systems.
8. There shall be knockouts opened only for the insertion of conduit. Any outlet boxes with more openings than are necessary for conduit insertion shall be sealed by the Contractor without additional charge.
9. All outlet boxes and junction boxes for exposed work shall be galvanized cast iron or cast aluminum with threaded openings. Outlet boxes for exposed inside work in damp locations shall be galvanized cast iron or cast aluminum with threaded hubs and neoprene gaskets.
10. Junction boxes shall not be less than 4 11/16" square and shall be equipped with zinc coated plates. Where plates are exposed they shall be finished to match the room decor.



11. **FIXTURE SUPPORTS:** Outlet boxes supporting lighting fixtures shall be equipped with fixture studs held by approved galvanized stove bolts or integral with the box. Cast iron or malleable boxes shall have four (4) tapped holes for mounting required cover or fixtures.
12. Outlet boxes exposed to the weather or indicated W.P. shall be cast iron or cast aluminum and the covers made watertight with neoprene gaskets. The boxes shall have external lugs for mounting. Drilling of the body of the fitting for mounting will not be permitted. The cover screws shall be appropriate in size, non-corrodible and not less than four (4) in number for each box opening.

REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 3.3

3.3 ELECTRICAL WIRING DEVICES:

- A. **WALL SWITCHES** shall be of the best specification grade, quiet type, and shall have a rating of 20 Amperes at 277 volts, as manufactured by Bryant, Hubbell or approved equal. The mechanism shall be equipped with arc snuffers. They shall be of the tumbler type, single pole. Switches of the 3-way type shall have a similar rating.
- B. **RECEPTACLES:**
 1. **CONVENIENCE OUTLETS:** shall be of the best specification grade, duplex, two-pole, 3-wire, 20 Amperes at 125 volts. It shall have a grounding pole that shall be grounded to the conduit system. Receptacles shall be capable of both back and side wiring and shall have only one (1) grounding screw. Receptacles shall be Hubbell Cat. #5262 or approved equal.
 2. **HEAVY DUTY RECEPTACLE OUTLETS:** shall have the Ampere rating and the number of poles specified on the Contract Drawings and shall be Hubbell, Russell-Stoll, Bryant, AH & H or approved equal. Each outlet shall have a grounding pole, which shall be grounded to the conduit system.
 3. **FLOOR RECEPTACLES:** shall be Russell & Stoll #3040 or approved equal, to fit into floor box previously specified.
 4. **NAMEPLATES:** are required for all receptacles other than 120V.
- C. **CLOCK HANGERS:** Clock outlets for surface type clocks shall be equipped with a supporting hook and recessed faceplate to conceal the electrical cord.
- D. **WATERTIGHT DEVICES:** For installations exposed to weather or in damp locations, the devices shall be in a gasketed, cast iron enclosure.
- E. **PLATES:**
 1. Every convenience outlet and switch outlet shall be covered by means of a stainless steel No. 302 - 0.4" antimagnetic plate with an approved finish, unless provided otherwise in the detailed Specifications.
 2. Where two (2) or three (3) switches are grouped together, a single faceplate shall be used. Where more than three (3) switches are located at one (1) point, the faceplates may be made up in multiple units.

REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 3.4

3.4 ELECTRICAL CONDUCTORS AND TERMINATIONS:

- A. **CONDUCTORS FOR LIGHT AND POWER -** All wire and cable shall be of annealed copper of 98% conductivity. Aluminum wire or cable will not be permitted. The insulation shall be flame retardant, moisture and heat resistant, thermoplastic, type THW or THWN rated for 600 volts at 75 degrees C. for



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

both wet and dry locations. Wires No. 8 or larger shall be stranded. Wires and cables shall also be subject to the requirements of the NYCEC. Cables for incoming service or wire in conduits contiguous with the earth or in concrete or other damp or wet locations shall be synthetic rubber insulated with neoprene jacket, heat and moisture resistant and shall be equal to UL Type USE and rated for 600 volts at 75 degrees C. for both wet and dry locations.

- B. **FIXTURE WIRE:** Lighting fixtures shall be wired with No. 14 gauge wire designated as AWM and rated at 105 degrees C.
- C. **OTHER TYPES:** Cables and wires for interior communication systems are described in applicable detailed Specifications.
- D. **MINIMUM SIZE:** Conductors smaller than No. 12 AWG shall not be used for light or power.
- E. **COLOR CODE:** Wires shall have a phase color code, and multiple conductor cables shall be color coded.
- F. **CABLE DATA:** The Contractor shall submit for approval the following information for each size and type of cable to be furnished.
 - 1. Manufacture of Cable - Location of Plant.
 - 2. Minimum insulation resistance at standard test temperature.
 - 3. Days required for delivery to site of work after order to proceed with manufacture.
- G. **ORIGINAL REELS:** Cable and wire shall be delivered to the site of the work on original sealed factory reels.
- H. **WIRE INSTALLATION:**
 - 1. **INSTALL WIRES AFTER PLASTERING** - Feeder and branch circuits wiring shall not be installed in conduit before the rough plastering work is completed. No conductors shall be pulled into floor conduits before floor is poured.
 - 2. **CONDUIT SECURED IN PLACE** - No conductor shall be pulled into any conduit run before all joints are made up tightly and the entire run rigidly secured in place.
 - 3. **WIRE ENDS** - All wires shall be left with sufficiently long ends for proper connection and stowing.
 - 4. **PULLING COMPOUNDS** - When required to ease the pulling-in of wires into conduit, only approved compounds as recommended by cable manufacturers shall be used.
 - 5. **PRESSURE CONNECTORS** - for wires shall be of the cast copper or forged copper pressure plate type. Connectors shall be O.Z., Burndy, National Electric Products or approved equal.
 - 6. Splices and feeder taps in the gutters of panel boxes shall be made by means of pressure plate type connectors encased in composition covers as manufactured by O.Z., Burndy, National Electric Products or approved equal.
 - 7. Splices in branch wiring for sound systems and fire systems, shall be first made mechanically secure, then soldered and taped.
 - 8. In lieu of soldered splices (except for sound and Fire Systems, which must have soldered splices) the following alternates are acceptable for operating temperatures up to 105 degrees C., for fluorescent fixtures and for the splicing of branch circuit wiring up to No. 8 AWG wire:
 - a. Mechanical splices made with mechanical connectors as manufactured by the Minnesota Manufacturing Company "Scotchlock" or approved equal. Mechanical connectors requiring a special tool (pressure connectors, insulators and locking rings) by Buchanan or approved equal. The tool used for connector application shall be as approved by the connector manufacturer.



- b. For wire and cable No. 6 AWG and larger for branch circuit wiring the seamless tubular connector will only be accepted. Application of this connector shall be with a tool recommended by the connector manufacturer.
 9. TAGS: All feeders and risers shall be tagged at both ends, and in all pull and junction boxes and gutter spaces through which they pass. Such tags shall be of fiber and have the feeder designation and size stamped thereon.
 10. BRANCH CIRCUIT WIRING:
 - a. The Contractor installing branch circuit wiring shall test the work for correct connections and leave all loop splices in the fixture outlet boxes properly spliced and taped. The Contractor shall provide wire ends long enough for convenient connection to device.
 - b. NEUTRALS: No common neutrals shall be used except for lighting branch circuits. Each neutral wire shall be terminated separately on a neutral busbar in the panelboard. No common neutrals will be permitted for convenience receptacle branch circuits.
- I. TERMINATIONS
 1. LUGS: All lugs for all devices and all cable terminations shall be copper. AL/CU rated lugs will not be permitted. The only exception to this requirement is when the particular device is not manufactured with copper lugs by any manufacturer. Lugs for No. 6 AWG cable and larger shall be cast copper or forged copper pressure plate type. Lugs for 1/0 and larger shall be fastened with two (2) bolts.
 2. All lugs shall be of the proper size to accept the cable connected to them. Any subcontractor furnishing a device containing lugs is to coordinate with the Contractor to insure that the device terminations are adequate for the wire or cable (whose size may be larger than expected due to voltage drop considerations) connected to the device.

REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 3.5

3.5 CIRCUIT PROTECTIVE DEVICES:

This Section sets forth the circuit protective devices such as circuit breakers and safety switches, used in connection with Motor Control Equipment, Distribution Centers, Panel boards and Service Entrance.

A. CIRCUIT BREAKERS:

1. CIRCUIT BREAKERS: shall be operable in any position and shall be of the quick-make, quick-break type on manual operation. The handle shall be trip free, preventing contacts from being held in closed position against abnormal overloads or short circuits. Positive visual indication of automatic tripped position of breaker shall be provided, in addition to the "On" and "Off" indication. All circuit breakers shall be of the bolted type.
2. TRIP RATING: Circuit breakers shall be provided with the required number of trip elements, calibrated at 40 degrees C., ambient temperature, in accordance with wire sizes or motor currents as shown on Contract Drawings or indicated in the Specifications.
3. POLE BARRIER: Multipole pole breakers shall be designed to break all poles simultaneously. They shall be provided with barriers between poles and arc suppressing devices.
4. ELEMENTS: Multipole circuit breakers shall have frames of not less than a 100 Ampere rating. Multipole circuit breakers for 480 volts AC operation shall have an NEMA interrupting rating of 18,000 Amperes, unless a higher rating is specified in the Specific Requirements or indicated on the Contract Drawings.



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

5. For circuit breakers with frame size up to and including 225 Amperes, the breakers may be provided with non-interchangeable trip elements. For frame ratings above 225 Amperes, the breakers shall be provided with interchangeable trip elements, which can be replaced readily.
6. Single pole circuit breakers for branch circuits shall have a frame size of no less than 100 Amperes, and shall be rated at 125 volt A.C. with a NEMA interrupting rating of 10,000 Amperes, unless a higher rating is specified in the Specifications or indicated on the Contract Drawings.
7. INVERSE TIME ACTION: The circuit breakers shall be dual element type, one (1) element with time limit characteristics, so that tripping will be prevented on momentary overloads, but will occur before dangerous values are reached and the other with instantaneous trip action. Inverse time delay action shall be effective between a minimum tripping point of 125% of rating of breaker and an instantaneous tripping point between 600% and 700% of rated current.
8. CONSTANCY OF CALIBRATION: The tripping elements shall insure constant calibration and be capable of withstanding excessive short circuit conditions without injury.
9. CONTACTS: shall be non-welding under operating conditions and of the silver to silver type.
10. TEMPERATURE RISE: Current carrying parts, except thermal elements, shall not rise in temperature in excess of 30 degrees C. while carrying rated current at rated frequency.
11. NUMBERING: Each circuit breaker shall be distinctly numbered when installed in a group with other breakers. The calibration of trip element shall be indicated on each breaker.

B. SAFETY SWITCHES:

NEMA TYPE HD: When safety switches are permitted to be used for service entrance, motor disconnecting means or to control other types of electrical equipment, they shall be of the type HD of a rating not less than 30 Amperes. Enclosures shall be provided with means for locking. For ratings above 60 Amperes terminals shall have double studs.

REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 3.6

3.6 DISTRIBUTION CENTERS:

This Section sets forth the construction and installation procedure for Switchboards, Panel boards and Cabinets.

- A. PANELBOARDS-GENERAL TYPE: The panel boards shall be of the automatic circuit breaker type with individual breakers for each circuit, removable without disturbing the other units. Circuit breakers shall be in accordance with the requirements outlined under "Circuit Protective Devices."
- B. NUMBER AND RATING OF CIRCUIT BREAKERS: The Contract Drawings show a layout of each panel, giving the number, frame, size and trip setting of circuit breakers and number of branch circuits and spare breakers. Each branch circuit shall be distinctly numbered.
- C. BUS-BAR CONSTRUCTION AND SUPPORT: Panel Boards shall be of the dead front type and shall have bus bars and branch circuits designed to suit the system and voltage. Current carrying parts, exclusive of circuit breakers shall be copper and based on a maximum density of 1,000 Amperes per square inch. Bus bars for the main switchboard shall be designed for the frame rating of the Service Breaker. Bus bars shall run up the center of the panel, unless otherwise indicated, and shall have connected thereto the various branch circuits. Unless otherwise specified, bus bars for each panel board shall be equipped with main lugs only and capacity as required on Contract Drawings. Where main protection is required, automatic circuit breakers shall be used. A neutral bus of at least the same capacity as a live bus bar shall be provided for the connection of all neutral conductors. Each terminal shall be identified. All current carrying parts, exclusive of circuit breakers, shall be of copper with a minimum number of joints. The bus bar structure shall be a self-supporting unit, firmly fastened to a ½



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

- inch plastic board, extending the full length and width of assembly which shall serve to insulate the bus structure from the back of panel box. Other methods affording equally effective bus structure support and insulation will be given consideration. An insulating barrier shall separate neutral bus from other parts of panel.
- D. **CIRCUIT BREAKER ASSEMBLY:** The entire circuit breaker and bus bar assembly shall be mounted on an adjustable metal base or pan and secured to the back of panel box. The panel shall have edges flanged for rigidity.
- E. **PANEL MOUNTING:** The panel shall be centered in the panel box to line up with door openings and set level and plumb so that no live parts are exposed with the door open.
- F. **PANEL CABINET:**
1. **PANEL CABINET INSTALLATION:** When installed surface mounted in panel closets they shall be mounted on Kindorf channel.
 2. Where cabinets cannot be set entirely flush due to shallow walls or partitions or where cabinet is extra deep, the protruding sides of cabinet shall be trimmed with a metal or hardwood return molding of approved design and fastened to cabinet so as to conceal the intersection between the wall and cabinet.
- G. **NAMEPLATES:** Nameplates where required, shall be made of engraved Lamicoid sheet, or approved equal. Letters and numbers shall be engraved white on a black background (except for Firehouse projects which shall have white letters on a red background). The Contractor shall submit an engraved sample for approval as to design and style of lettering before proceeding with the manufacture of the nameplate. Nameplates shall be of suitable size and shall also be provided at the top of the switchboard or section thereof and on the trim at the top of all lighting and power panels. Similar nameplates shall also be provided for each distribution circuit breaker giving the breaker number, the number of the feeder, and the name of the equipment fed.
- H. **SHOP DRAWINGS:** showing all details of boxes, panels, etc., shall be submitted for approval.
- I. **DIRECTORIES:** A directory shall be fastened with brass screws and consist of a noncorrosive metal frame with dimensions not less than five (5) inches x eight (8) inches and a transparent window of Plasticile, Plexiglass, Lucite, Polycarbonate or approved equal that is not less than 1/16 inch thick over cardboard or heavy paper. The directory shall be typewritten and show the number of each circuit, the name of circuit and lighting or equipment supplied. The size of riser feeder shall be as indicated on directory. The dimensions of directory shall be submitted for approval for each size of panel.
- J. **CONSTRUCTION**
1. **FINISH:** Panel boxes, doors and trim for installation in dry locations, shall be zinc coated after fabrication by the hot-dip galvanizing or electroplate process on inside and outside surfaces. In damp locations, panel boards shall be enclosed and gasketed NEMA 3R type. Panel boards located outdoors or exposed to the weather shall be NEMA 3X type.
 2. **PAINTING:** Panel boxes, doors and trim shall receive a coat of approved priming paint and a second coat of approved paint in the field after installation. Paint shall be applied to the inside and outside of boxes and on both sides of trim. Panel trims and doors shall receive a third or finishing coat on the outside after installation. Approval as to texture and color must be obtained before the final coat is applied.



REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 3.7

3.7 MOTORS:

This Section sets forth the general design, construction and performance requirements, which shall apply to all motors furnished in the Contract.

- A. **MOTOR DESIGN:** All motors shall be designed to comply with the New York State Energy Conservation Construction Code and the New York City Energy Conservation Code. In the event of any conflict or inconsistency between such codes, the New York City Energy Conservation Code shall prevail. Motors shall have standard NEMA frames and shall have nameplate ratings adequate to meet the specified conditions of operation. Motor performance under variable conditions of voltage and frequency shall be within the limits set in NEMA standards, unless modified in the Specifications. Motors shall be expressly designed for the hazard duty load, voltage and frequency as specified in the Contract. All motor windings shall be copper. All motors intended to operate on a 208 volt system shall be designed and rated for 200 volts.
- B. **STANDARDS OF COMPARISON:** In the absence of specific motor specifications, in general, the best standard products of the leading motor manufacturers shall be considered as a standard for comparison. The requirements of the NEMA standards for motors and generators shall be deemed to contain the minimum requirements of performance and design.
- C. **OBJECTIONABLE NOISES:** Objectionable noises will not be tolerated and exceptionally quiet motors may be required for certain specified locations. Noise control tests as per the New York City Construction Codes may be performed as directed by the Commissioner. Such motors shall bear a nameplate lettered "Quiet Motor." Springs and slip rings shall be of approved non-ferrous material.
- D. **BEARINGS:**
1. Bearings, unless specified otherwise, shall be of the ball or roller type. Motors one (1) horsepower and larger that are equipped with ball roller bearings shall also have lubrication of the pressure-relief greasing type. The Contractor furnishing four (4) or more such motors shall also furnish, as part of the Contract, a pressure grease gun of rugged design, of approximately 10 ounce capacity, complete with necessary adapters. The Contractor shall also provide 10 pounds of approved gun grease.
 2. For any particular unit where sleeve bearings are deemed desirable, permission for their use may be granted by the Commissioner. Motors one (1) horsepower and larger that are equipped with sleeve type bearings shall in addition to having protected accessible fittings for oiling be provided with visible means for determining normal oil level. Lubrication shall be positive, automatic and continuous.
- E. **MOTOR TERMINALS AND BOXES:** Each motor shall be furnished with flexible leads of sufficient length to extend for a distance of not less than three (3) inches beyond the face of the conduit terminal box. This box shall be furnished of ample size to make and house motor connections. These requirements shall be met irrespective of any other standards or practices. Size of cable terminals and conduit terminal box holes shall be subject to approval. For motors five (5) horsepower or larger, each terminal shall come with two (2) cast or forged copper pressure type connectors with bolts, nuts and washers. For motors of smaller ratings, connectors of other acceptable types may be furnished. For installations exposed to the weather or moist locations, terminal boxes shall be of cast iron with threaded hubs and gasketed covers. Cover screws shall be of non-corrosive material.
- F. **MOTOR TEMPERATURE RISES:** The motor nameplate temperature rises for the various types of motor enclosures shall be as listed below:
- | | |
|---|---------------|
| 1. Open Frame | 40 degrees C. |
| 2. Totally enclosed and enclosed fan cooled | 55 degrees C. |



- 3. Explosion proof and submersible 55 degrees C.
- 4. Partially enclosed and drip proof 40 degrees C.

The temperature of the various parts of a motor shall meet the requirements of NEMA standards for the size and type of the motors. Tests for heating shall be made by loading the motor to its rated horsepower and keeping it so loaded for the rated time interval or until the temperature becomes constant.

- G. SPECIAL CODE INSTALLATIONS: Electrical installations covered by special publications of NBFU and by special City rulings and regulations shall comply in design and safety features with such applicable codes, regulations and rulings, and shall be furnished and installed complete with all accessories and safety devices as therein specified.
- H. MOTORS ON LIGHTING PANELS: The largest A.C. motor permitted on branch circuits of lighting panels shall not exceed 1/4 horsepower.
- I. MOTORS RATED: 1/2 horsepower and larger shall be polyphase.

REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 3.8

3.8 MOTOR CONTROL EQUIPMENT:

This Section sets forth the requirements for motor controllers and associated devices. Such requirements are applicable to all motor control equipment furnished or installed.

- A. MANUFACTURER: All control equipment furnished under the Contract shall be the product of a single manufacturer. Exceptions to this rule may be granted in the case of controllers for fractional horsepower motors driving special equipment, the various units of which have been engineered to obtain specific performance.
- B. CONTROL ITEMS REQUIRED: The Contractor furnishing motors shall also furnish therewith complete disconnecting, starting and control equipment as required by the detailed Specifications, the various code authorities and for the successful operation of the driven equipment. These items include circuit breaker, magnetic starter with overload protection and low voltage release or protection, push button stations, pilot lights and alarms, float, pressure, temperature and limit switches, load transfer switches, devices for manual operation and speed controllers, etc. The Contractor shall furnish as many of these items as are required for the successful operation of the driven unit.
 - 1. Where a motor is to be located out of sight of the controller, the Contractor shall furnish an approved disconnecting means to be mounted near motor.
- C. TYPES OF STARTERS:
 - 1. SQUIRREL CAGE: A.C. motors of the squirrel cage type, rated from one (1) to 30 horsepower, shall have magnetic across the line starters; motors rated above 30 horsepower shall be furnished with reduced voltage (autotransformer type) starter or part winding start with time delay to reduce inrush current. Size of starters shall be based on 200V operation.
 - 2. SLIP RING: A.C. Motors of the slip-ring type shall be furnished with primary across the line starters interlocked with secondary starting and regulating equipment. The interlocking feature shall prevent starting of the motor when the secondary controller is off the initial starting point.
 - 3. MAGNETIC: For fractional horsepower motors, magnetic type starters are not required unless the particular method of controlling the driven equipment makes them necessary. Where individual single phase fractional horsepower motors or the sum of fractional horsepower motors controlled by an automatic device are 1/2 horsepower or more, magnetic starters and circuit breakers shall be used. Single phase A.C. motors smaller than 1/2 horsepower or three-phase A.C. motors smaller than one (1) horsepower where manual control is specified may be furnished with starters of toggle



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

switch or push button type with inbuilt thermal protection. No additional disconnecting means is required to be furnished with this type of starter. This type of starter may also be used in series with automatic control devices such as thermostats, float and pressure switches, provided the individual motor or the sum of fractional horsepower motors is less than ½ horsepower. Means for manual operation shall be provided.

- D. **DISCONNECTING BREAKER:** All motor starters, unless otherwise specified, shall be provided with a disconnecting means in the form of a circuit breaker of the type specified under Article 3.5 CIRCUIT PROTECTIVE DEVICES. This disconnecting means shall be contained in the same housing with the starter and shall be operable from outside. Means shall be provided for locking the handle of the circuit breaker in the "OFF" position if it is desired to take the equipment out of service and prevent unauthorized starting.
- E. **CONTROL CABINET: DRY LOCATIONS -** All starters shall be furnished with general purpose, NEMA Type 1, sheet metal enclosures with hinged covers and baked enamel finish.
- F. **CONTROL CABINET – WATERTIGHT:** In wet locations, cast iron watertight enclosures with threaded hubs, galvanized and gasketed hinged covers shall be provided.
- G.
 - 1. **PANELS:** Motor control devices and appliances shall be mounted on approved insulating slabs with all wiring and connections made on the back of the slabs.
 - 2. **WIRING AND TERMINALS:** Wiring connections for currents of 100 Amperes or less may be made with copper wire or cable with special flameproof insulating coverings. Such wires shall be installed in a neat workmanlike manner, flat against the slab, and held in place by clips. Connections shall be made with pressure connectors for No. 8 AWG and larger wires, and with grommets for small stranded wires. Except for incoming and outgoing main leads, all connections shall terminate on approved connector blocks, which may be installed on the face of the slab. For small, across the line starters, the above requirements may be modified if satisfactory connections are provided.
 - 3. **COPPER BUS:** For currents exceeding 100 Amperes, copper bus shall be used in place of wires. The bus shall be constructed of copper rods, tubing or flat strap, bent and shaped properly and securely attached to the slab in a neat and workmanlike manner. The cross section of copper shall provide sufficient areas to keep current density at not more than 1,000 Amperes per square inch.
- H. **COOPERATION:** The Contractor's subcontractor(s) who furnish electrically operated equipment shall give to the Contractor and the Contractor's electrical subcontractor full information relative to sizes and locations of apparatus furnished by them which require electrical connections.
- I. **SPARE PARTS:**
 - 1. **FURNISH:** The Contractor shall furnish the following spare parts pertaining to equipment furnished by each subcontractor.
 - One (1) set of contact fingers and springs and thermal elements for each three (3) (or fraction) of each size of magnetic contactor starter.
 - One (1) holding coil for each three (3) (or fraction) of each size of magnetic contactor starter.
 - 2. **WRAPPER MARKING:** All parts shall be delivered to the Resident Engineer neatly wrapped and boxed and plainly tagged and marked for identification and reordering.

END OF SECTION 01 35 06



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

Division 01 – DDC STANDARD GENERAL CONDITIONS
SINGLE CONTRACT PROJECTS
Issue Date - June 01, 2013

No Text

GENERAL ELECTRICAL REQUIREMENTS
01 35 06 - 16



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

SECTION 01 35 26
SAFETY REQUIREMENTS PROCEDURES

PART I – GENERAL

1.1 RELATED DOCUMENTS:

- A. The following documents apply to all required work for the Project: (1) the Contract Drawings, (2) the Specifications, (3) the General Conditions, (4) the Addendum, and (5) the Contract [City of New York Standard Construction Contract].
- B. The Contractor shall comply with the requirements of "*The City of New York Department of Design and Construction Safety Requirements*". This document is included in the Information for Bidders.

1.2 SUMMARY:

- A. This Section includes administrative and general procedural requirements for Safety and Health Requirements, including:
 - 1. Definitions
 - 2. Required Safety Meeting
 - 3. Compliance with Regulations
 - 4. Submittals
 - 5. Personnel Protective Equipment
 - 6. Hazardous Materials
 - 7. Emergency Suspension of Work
 - 8. Protection of Personnel
 - 9. Environmental Protection

1.3 DEFINITIONS:

- A. Refer to Article 2 of the Contract for definition of terms, words and expressions used in the General Conditions not otherwise defined herein.
- B. Design Consultant: "Design Consultant" shall mean the entity responsible for providing design services for the Project, including without limitation, preparing the construction documents (drawings and specifications) and providing services in connection with such documents during construction. The entity serving as the "Design Consultant" may be a corporation, firm, partnership, joint venture, individual or combination thereof. Such entity may be either an employee(s) of the City or an entity engaged by the City to provide such services.

1.4 REQUIRED SAFETY MEETINGS:

- A. Prior to commencing construction, the Resident Engineer will schedule and hold a preconstruction kick-off meeting either at DDC's main office or at the Project site with representatives of the Contractor, including the principal on-site project representative and one or more safety representatives, Commissioner's designated representatives and other concerned parties for the purpose of reviewing the Contract Safety requirements. The Contractor's safety requirements shall be reviewed, and implementation of safety provisions pertinent to the Work shall be discussed.
- B. The Contractor is responsible for conducting weekly documented jobsite safety meetings, given to all jobsite personnel including all subcontractors on the project, with the purpose of discussing safety topics and job specific requirements at the DDC worksite.



1.5 COMPLIANCE WITH REGULATIONS:

- A. The Work, including contact with or handling of hazardous materials, disturbance or dismantling of structures containing hazardous materials, and disposal of hazardous materials, shall comply with the applicable requirement for CFR Parts 1910 and 1926, and 40 CFR, Parts 61, 261, 761 and 763.
- B. Work involving disturbance or dismantling of asbestos or asbestos containing materials, demolition of structures containing asbestos and removal of asbestos, shall comply with 40 CFR Part 61, Subparts A and M, and 40 CFR Part 763, as applicable.
- C. Work shall additionally comply with all applicable federal, state and local safety and health regulations.
- D. In case of a conflict between applicable regulations, the more stringent requirements shall apply.
- E. All workers working on the DDC project site are required by NYC Local Law 41 to complete the OSHA 10 -hour training course.

1.6 SUBMITTALS:

- A. The Contractor shall submit, to the Resident Engineer, copies of the Safety Program, Site Safety Plan and other required documentation in accordance with the "New York City Department of Design and Construction Safety Requirements."
- B. Permits: If hazardous materials are disposed of off-site submit copies of shipping manifests and permits from applicable federal, state or local authorities and disposal facilities, and submit certificates that the material has been disposed of in accordance with regulations to the Resident Engineer.
- C. Accident Reporting: Submit a copy of each accident report to the Resident Engineer in accordance with the "New York City Department of Design and Construction Safety Requirements."
- D. All Asbestos and Lead project regulatory notifications are to be submitted to DDC's Bureau of Environmental and Geotechnical Services (BEGS) through the Resident Engineer.
- E. Request for Subcontractor Approval: Any subcontractor performing environmental work shall submit required documentation for approval to perform such work as required by DDC's BEGS.

PART II – PRODUCTS

2.1 PERSONNEL PROTECTIVE EQUIPMENT:

Special facilities, devices, equipment and similar items used by the Contractor in execution of the Work shall comply with 29 CFR Part 1910, subpart I, Part 1926, subpart E and other applicable regulations.

2.2 HAZARDOUS MATERIALS:

- A. The Contractor shall bring to the attention of the Commissioner, any material encountered during execution of the Work that the Contractor suspects to be hazardous.
- B. The Commissioner shall determine whether the Contractor shall perform tests to determine if the material is hazardous. A change to the Contract price may be provided, subject to the applicable provisions of the Contract.
- C. If the material is found to be hazardous, the Commissioner may direct the Contractor to remediate the hazard and a change to the Contract price may be provided, subject to the applicable provisions of the Contract.



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

PART III – EXECUTION

3.1 EMERGENCY SUSPENSION OF WORK:

- A. When the Contractor is notified by the Commissioner of noncompliance with the safety provisions of the Contract, the Contractor shall immediately, unless otherwise instructed, correct the unsafe condition, at no additional cost to the City.
- B. If the Contractor fails to comply promptly, all or part of the Work may be stopped by notice from the Commissioner.
- C. When, in the opinion of the Commissioner, the Contractor has taken satisfactory corrective action, the Commissioner shall provide written notice to the Contractor that work may resume.
- D. The Contractor shall not be allowed any extension of time or compensation for damages in connection with a work stoppage for an unsafe condition.

3.2 PROTECTION OF PERSONNEL:

- A. The Contractor shall take all necessary precautions to prevent injury to the public, occupants, or damage to property of others. The public and occupants includes all persons not employed by the Contractor or a subcontractor.
- B. Whenever practical, the work area shall be fenced, barricaded or otherwise blocked off from the Public or occupants to prevent unauthorized entry into the work area, in compliance with the requirements of Section 01 50 00, TEMPORARY FACILITIES, SERVICES AND CONTROLS, and including, without limitation, the following:
 - 1. Provide traffic barricades and traffic control signage where construction activities occur in vehicular areas.
 - 2. Corridors, aisles, stairways, doors and exit ways shall not be obstructed or used in a manner to encroach upon routes of ingress or egress utilized by the public or occupants, or to present an unsafe condition to the public or occupants.
 - 3. Store, position and use equipment, tools, materials, scraps and trash in a manner that does not present a hazard to the public or occupant by accidental shifting, ignition or other hazardous activity.
 - 4. Store and transport refuse and debris in a manner to prevent unsafe and unhealthy conditions for the public and occupants. Cover refuse containers, and remove refuse on a frequent regular basis acceptable to the Resident Engineer. Use tarpaulins or other means to prevent loose transported materials from dropping from trucks or other vehicles.

3.3 ENVIRONMENTAL PROTECTION:

- A. Dispose of solid, liquid and gaseous contaminants in accordance with local codes, laws, ordinances and regulations.
- B. Comply with applicable federal, state and local noise control laws, ordinances and regulations, including but not limited to 29 CFR 1910.95, 29 CFR 1926.52 and NYC Administrative Code Chapter 28 of Title 15.

END OF SECTION 01 35 26



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

Division 01 – DDC STANDARD GENERAL CONDITIONS
SINGLE CONTRACT PROJECTS
Issue Date - June 01, 2013

No Text

SAFETY REQUIREMENTS PROCEDURES
01 35 26 - 4



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

SECTION 01 35 91
HISTORIC TREATMENT PROCEDURES

REFER TO THE ADDENDUM FOR APPLICABILITY OF THIS SECTION 01 35 91

PART I – GENERAL

1.1 RELATED DOCUMENTS:

- A. The following documents apply to all required work for the Project: (1) the Contract Drawings, (2) the Specifications, (3) the General Conditions, (4) the Addendum, and (5) the Contract [City of New York Standard Construction Contract].

1.2 SUMMARY:

- A. This Section includes administrative and procedural requirements for the treatment of Landmark Structures and Landmark Quality Structures, as identified in the Addendum. Specific requirements are indicated in other sections of the Specifications.
- B. This Section includes, without limitation, the following:
1. Storage and protection of existing historic materials.
 2. Temporary protection of historic materials during construction.
 3. General Protection
 4. Protection during use of heat-generating equipment.
 5. Photographic Documentation
 6. NYC Landmarks Preservation Commission Final Approval signoffs.

1.3 RELATED SECTIONS: include without limitation the following:

- | | | |
|----|------------------|----------------------------|
| A. | Section 01 10 00 | SUMMARY |
| B. | Section 01 32 33 | PHOTOGRAPHIC DOCUMENTATION |
| C. | Section 01 33 00 | SUBMITTAL PROCEDURES |
| D. | Section 01 77 00 | CLOSEOUT PROCEDURES |
| E. | Section 01 78 39 | CONTRACT RECORD DOCUMENTS |

1.4 DEFINITIONS:

- A. Refer to Article 2 of the Contract for definition of terms, words and expressions used in the General Conditions not otherwise defined herein.
- B. Design Consultant: "Design Consultant" shall mean the entity responsible for providing design services for the Project, including without limitation, preparing the construction documents (drawings and specifications) and providing services in connection with such documents during construction. The entity serving as the "Design Consultant" may be a corporation, firm, partnership, joint venture, individual or combination thereof. Such entity may be either an employee(s) of the City or an entity engaged by the City to provide such services.
- C. Landmark Structure or Site: Any building or site which has been designated as a landmark, or any building or site within a landmark district, as designated by the New York City Landmarks Preservation Commission or the New York State Historic Preservation Office.



- D. **Landmark Quality Structure:** Any building which has been determined by the City to be of landmark quality and/or historical significance
- E. **Preservation:** To apply measures necessary to sustain the existing form, integrity, and materials of a historic property. Work may include preliminary measures to protect and stabilize the property.
- F. **Rehabilitation:** To make possible a compatible use for a property through repair, alterations, and additions while preserving those portions or features that convey its historical, cultural, or architectural values.
- G. **Restoration:** To accurately depict the form, features, and character of a property as it appeared at a particular period of time by means of the removal of features from other periods in its history and the reconstruction of missing features from the restoration period.
- H. **Reconstruction:** To reproduce in the exact form and detail a building, structure, or artifact as it appeared at a specific period in time.
- I. **Stabilize:** To apply measures designed to reestablish a weather-resistant enclosure and the structural reinforcement of an item or portion of the building while maintaining the essential form as it exists at present.
- J. **Protect and Maintain:** To remove deteriorating corrosion, reapply protective coatings, and install protective measures such as temporary guards; to provide the least degree of intervention.
- K. **Repair:** To stabilize, consolidate, or conserve; to retain existing materials and features while employing as little new material as possible. Repair includes patching, piecing-in, splicing, consolidating, or otherwise reinforcing or upgrading materials. Within restoration, repair also includes limited replacement in kind, rehabilitation, and reconstruction, with compatible substitute materials for deteriorated or missing parts of features when there are surviving prototypes.
- L. **Replace:** To duplicate and replace entire features with new material in kind. Replacement includes the following conditions:
 - 1. **Duplication:** Includes replacing elements damaged beyond repair or missing. Original material is indicated as the pattern for creating new duplicated elements.
 - 2. **Replacement with New Materials:** Includes replacement with new material when original material is not available as patterns for creating new duplicated elements.
 - 3. **Replacement with Substitute Materials:** Includes replacement with compatible substitute materials. Substitute materials are not allowed, unless otherwise indicated.
- M. **Remove:** To detach items from existing construction and legally dispose of them off-site, unless indicated to be removed and salvaged or removed and reinstalled.
- N. **Remove and Salvage:** To detach items from existing construction and deliver them to the City ready for reuse.
- O. **Remove and Reinstall:** To detach items from existing construction, repair and clean them for reuse, and reinstall them where indicated.
- P. **Existing to Remain or Retain:** Existing items of construction that are not to be removed and that are not otherwise indicated to be removed and salvaged, or removed and reinstalled.



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

- Q. Material in Kind: Material that matches existing materials, as much as possible, in species, cut, color, grain, and finish.

1.5 SUBMITTALS:

- A. Historic Treatment Program: Submit a written plan for each phase or process, including protection of surrounding materials during operations. Describe in detail materials, methods, and equipment to be used for each phase of work.
- B. Alternative Methods and Materials: If alternative methods and materials to those indicated are proposed for any phase of work, submit for Commissioner's approval a written description including evidence of successful use on other comparable projects, and program of testing to demonstrate effectiveness for use on this Project.
- C. Qualification Data: For historic treatment specialists as specified and required by individual sections of the project specifications.
- D. Photographs for Designated Landmark Structures: Submit photographs in accordance with Section 01 32 33, PHOTOGRAPHIC DOCUMENTATION and as described in this section.
- E. Record Documents: Include modifications to manufacturer's written instructions and procedures, as documented in the historic treatment preconstruction conference and as the Work progresses.

1.6 QUALITY ASSURANCE:

- A. Special Experience Requirements: Special Experience Requirements may apply to the firm that will provide Historic Treatment Services. If applicable, such Special Experience Requirements are set forth in the Bid Booklet and the Addendum.
- B. Historic Treatment Preconstruction Conference: The Resident Engineer will schedule and hold a preconstruction meeting at the site in accordance with Section 01 31 00, PROJECT MANAGEMENT AND COORDINATION.
 - 1. Review manufacturer's written instructions for precautions and effects of products and procedures on building materials, components, and vegetation.
 - a. Record procedures established as a result of the review and distribute to affected parties.

1.7 STORAGE AND PROTECTION OF HISTORIC MATERIALS:

- A. Removed and Salvaged Historic Materials: As specified and required by individual sections of the project specifications.
- B. Removed and Reinstalled Historic Materials: As specified and required by individual sections of the project specifications.
- C. Existing Historic Materials to Remain: Protect construction indicated to remain against damage and soiling during historic treatment. When permitted by the Commissioner, items may be removed to a suitable, protected storage location during historic treatment and reinstalled in their original locations after historic treatment operations are complete.
- D. Storage and Protection: When removed from their existing location, store historic materials, at a location acceptable to the Commissioner, within a weather tight enclosure where they are protected from wetting by rain, snow, or ground water, and temperature variations. Secure stored materials to protect from theft.
 - 1. Identify removed items with an inconspicuous mark indicating their original location.



PART II – PRODUCTS (Not Used)

PART III – EXECUTION

3.1 PROTECTION, GENERAL:

- A. Comply with manufacturer's written instructions for precautions and effects of products and procedures on adjacent building materials, components, and vegetation.
- B. Ensure that supervisory personnel are present when work begins and during its progress.
- C. Temporary Protection of Historic Materials during Construction:
 - 1. Protect existing materials during installation of temporary protections and construction. Do not deface or remove existing materials.
 - 2. Attachments of temporary protection to existing construction shall be approved by the Commissioner prior to installation.
- D. Protect landscape work adjacent to or within work areas as follows:
 - 1. Provide barriers to protect tree trunks.
 - 2. Bind spreading shrubs.
 - 3. Use coverings that allow plants to breathe and remove coverings at the end of each day. Do not cover plant material with a waterproof membrane for more than 8 hours at a time.
 - 4. Set scaffolding and ladder legs away from plants.
- E. Existing Drains: Prior to the start of work or any cleaning operations, test drains and other water removal systems to ensure that drains and systems are functioning properly. Notify Commissioner immediately of drains or systems that are stopped or blocked. Do not begin Work of this Section until the drains are in working order.
 - 1. Provide a method to prevent solids, including stone or mortar residue, from entering the drains or drain lines. Clean out drains and drain lines that become blocked or filled by sand or any other solids because of work performed under this Contract.
 - 2. Protect storm drains from pollutants. Block drains or filter out sediments, allowing only clean water to pass.

3.2 PROTECTION DURING USE OF HEAT-GENERATING EQUIPMENT:

- A. No roofing work requiring the use of an open flame shall be permitted on any Landmark Structure or any Landmark Quality Structure, whose roof or wall structure is made of wood or primarily of wood.
- B. Comply with the following procedures while performing work with heat-generating equipment, including welding, cutting, soldering, brazing, paint removal with heat, and other operations where open flames or implements utilizing heat are used:
 - 1. Obtain Commissioner's approval for operations involving use of open-flame or welding equipment. Notification shall be given for each occurrence and location of work with heat-generating equipment.
 - 2. As far as practical, use heat-generating equipment in shop areas or outside the building.
 - 3. Before work with heat-generating equipment commences, furnish personnel to serve as a fire watch (or watches) for location(s) where work is to be performed.



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

4. Do not perform work with heat-generating equipment in or near rooms or in areas where flammable liquids or explosive vapors are present or thought to be present. Use a combustible gas indicator test to ensure that the area is safe.
 5. Remove and keep the area free of combustibles, including, rubbish, paper, waste, etc., within area of operations.
 6. If combustible material cannot be removed, provide fireproof blankets to cover such materials.
 7. Where possible, furnish and use baffles of metal or gypsum board to prevent the spraying of sparks or hot slag into surrounding combustible material.
 8. Prevent the extension of sparks and particles of hot metal through open windows, doors, holes, and cracks in floors, walls, ceilings, roofs, and other openings.
 9. Inspect each location of the day's work not sooner than 30 minutes after completion of operations to detect hidden or smoldering fires and to ensure that proper housekeeping is maintained.
- C. Where sprinkler protection exists and is functional, maintain it without interruption while operations are being performed. If operations are performed close to automatic sprinkler heads, shield the individual heads temporarily with guards.

3.3 PHOTOGRAPHIC DOCUMENTATION:

Photographs for Designated Landmark Structures: Show existing conditions prior to any historic treatments, including one overall photograph and two close-up photographs of all areas of work affected. Show one overall photograph and two close-up photographs of all areas of work after the successful execution of all historical treatments.

3.4 NEW YORK CITY LANDMARKS PRESERVATION COMMISSION FINAL APPROVALS SIGNOFF:

For all projects involving a Landmark Structure or Site, the Contractor, at the completion of the work, shall submit to the Commissioner, in accordance with Section 01 78 39, CONTRACT RECORD DOCUMENTS, all documentation concerning the successful execution of all historic treatments. This shall include, but not be limited to, copies of all before and after photographs of historic treatments, one copy of the Contractor's as-built drawings, copies of testing and analysis results, including cleaning, mortar analysis, pointing mortars and all other information pertaining to work performed under the New York City Landmarks Preservation Commission jurisdiction.

END OF SECTION 01 35 91



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

Division 01 – DDC STANDARD GENERAL CONDITIONS
SINGLE CONTRACT PROJECTS
Issue Date - June 01, 2013

No Text



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

SECTION 01 40 00
QUALITY REQUIREMENTS

PART I – GENERAL

1.1 RELATED DOCUMENTS:

- A. The following documents apply to all required work for the Project: (1) the Contract Drawings, (2) the Specifications, (3) the General Conditions, (4) the Addendum, and (5) the Contract [City of New York Standard Construction Contract].

1.2 SUMMARY:

- A. This Section includes the following:
- a. Definitions
 - b. Conflicting Requirements
 - c. Quality Assurance
 - d. Quality Control
 - e. Approval of Materials
 - f. Special Inspections (Controlled Inspection)
 - g. Inspections by Other City Agencies
 - h. Certificates of Approval
 - i. Acceptance Tests
 - j. Repair and Protection
- B. This Section includes administrative and procedural requirements for quality control to assure compliance with quality requirements specified in the Contract Documents.
- C. Testing and inspecting services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with the Contract Document requirements.
- D. Specified tests, inspections, and related actions do not limit Contractor's other quality-assurance and -control procedures that facilitate compliance with the Contract Document requirements.
- E. Provisions of this Section do not limit requirements for the Contractor to provide quality-assurance and -control services required by the Commissioner or authorities having jurisdiction.
- F. Specific test and inspection requirements are specified in the individual sections of the Specifications.
- G. LEED: Refer to the Addendum to identify whether this project is designed to comply with a Certification Level according to the U.S. Green Building Council's Leadership in Energy & Environmental Design (LEED) Rating System, as specified in Section 01 81 13, "SUSTAINABLE DESIGN REQUIREMENTS FOR LEED BUILDINGS."
- H. COMMISSIONING: Refer to the Addendum to identify whether this project will be Commissioned by an independent third party under separate contract with the City of New York. Commissioning shall be in accordance with ASHRAE and USGBC LEED-NC procedures, as described in Section 01 91 13, GENERAL COMMISSIONING REQUIREMENTS. The Contractor shall cooperate with the commissioning agent and provide whatever assistance is required.



1.3 RELATED SECTIONS: Include without limitation the following:

- A. Section 01 10 00 SUMMARY
- B. Section 01 31 00 PROJECT MANAGEMENT AND COORDINATION
- C. Section 01 32 00 CONSTRUCTION PROGRESS DOCUMENTATION
- D. Section 01 33 00 SUBMITTAL PROCEDURES
- E. Section 01 77 00 CLOSEOUT PROCEDURES
- F. Section 01 78 39 CONTRACT RECORD DOCUMENTS

1.4 DEFINITIONS:

- A. Refer to Article 2 of the Contract for definition of terms, words and expressions used in the General Conditions not otherwise defined herein.
- B. Design Consultant: "Design Consultant" shall mean the entity responsible for providing design services for the Project, including without limitation, preparing the construction documents (drawings and specifications) and providing services in connection with such documents during construction. The entity serving as the "Design Consultant" may be a corporation, firm, partnership, joint venture, individual or combination thereof. Such entity may be either an employee(s) of the City or an entity engaged by the City to provide such services.
- C. Commissioning: A Total Quality Assurance process that includes checking the design and installation of equipment, as well as performing functional testing of the same to confirm that the installed equipment is operating and in conformance with the Contract Documents and the City's requirements.

1.5 CONFLICTING REQUIREMENTS:

- A. General: If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, the Contractor shall comply with the most stringent requirement as determined by the Commissioner. The Contractor shall refer any uncertainties and/or conflicting requirements to the Commissioner for a decision before proceeding.
- B. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. The Contractor shall refer any uncertainties to the Commissioner for a decision before proceeding.

1.6 QUALITY ASSURANCE:

- A. General: Qualifications paragraphs in this Sub-Section establish the minimum qualification levels required. Individual Specification Sections specify additional requirements.
- B. Installer Qualifications: Special Experience Requirements may apply to the firm that will install, erect or assemble specified work required for the Project. If applicable, such Special Experience Requirements are set forth in the Bid Booklet and the Addendum.
- C. Manufacturer Qualifications: Special Experience Requirements may apply to the firm that will manufacture equipment, products or systems specified for the Project. If applicable, such Special Experience Requirements are set forth in the Bid Booklet and the Addendum.



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

- D. Fabricator Qualifications: Special Experience Requirements may apply to the firm that will fabricate material, products or systems specified for the Project. If applicable, such Special Experience Requirements are set forth in the Bid Booklet and the Addendum
- E. Professional Engineer Qualifications: A professional engineer who is licensed to practice in the State of New York and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for installations of the system, assembly, or products that are similar to those indicated for this Project in material, design, and extent.
- F. Factory-Authorized Service Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.
- G. Mockups: Before installing portions of the Work requiring mockups, build mockups for each form of construction and finish required to comply with the following requirements, using materials indicated for the completed Work:
 - 1. Build mockups in location and of size indicated or, if not indicated, as directed by the Resident Engineer.
 - 2. Notify Resident Engineer seven (7) days in advance of dates and times when mockups will be constructed.
 - 3. Demonstrate the proposed range of aesthetic effects and workmanship.
 - 4. Obtain Design Consultant's approval of mockups before starting work, fabrication, or construction.
 - 5. Maintain mockups during construction in an undisturbed condition as a standard for judging the completed Work.
 - 6. Demolish and remove mockups when directed, unless otherwise directed or indicated.

1.7 QUALITY CONTROL:

- A. City's Responsibilities: Where quality-control services are indicated as the City's responsibility in the Specifications, the City will engage a qualified testing agency to perform these services.
 - 1. COST OF TESTS BORNE BY THE CITY: Where the City directs tests to be performed to determine compliance with the Specifications regarding materials or equipment, and where such compliance is ascertained as a result thereof, the City will bear the cost of such tests.
 - 2. The City will furnish the Contractor with names, addresses, and telephone numbers of testing entities engaged and a description of the types of testing and inspecting they are engaged to perform.
 - 3. Costs for retesting and re-inspecting construction that replaces or is necessitated by work that failed to comply with the Contract Documents will be charged to the Contractor.
- B. Contractor's Responsibility: Tests and inspections not explicitly assigned to the City are the Contractor's responsibility. Unless otherwise indicated, the Contractor shall provide quality-control services as set forth in the Specifications and those required by Authorities having jurisdiction. The Contractor shall provide quality-control services required by Authorities having jurisdiction, whether specified or not.
 - 1. COST OF TESTS BORNE BY CONTRACTOR – In the case of tests which are specifically called for in the Specifications to be provided by the Contractor or tests which are required by any Authority having jurisdiction, but are not indicated as the responsibility of the City, the cost thereof shall be borne by the Contractor and shall be deemed to be included in the Contract price. The Contractor shall reimburse the City for expenditures incurred in providing tests on materials and equipment submitted by the Contractor as the equivalent of that specifically named in the Specifications and rejected for non-compliance.
 - 2. Where services are indicated as Contractor's responsibility, the Contractor shall engage a qualified testing agency to perform these quality-control services. Any testing agency engaged by the Contractor to perform quality control services is subject to prior approval by the Commissioner.



3. The Contractor shall not employ same entity engaged by the City, unless agreed to in writing by the Commissioner.
 4. The Contractor shall notify testing agencies and the Resident Engineer at least 72 hours in advance of the date and time for the performance of Work that requires testing or inspecting.
 5. Where quality-control services are indicated as Contractor's responsibility, the Contractor shall submit a certified written report, in triplicate to the Commissioner, of each quality-control service.
 6. Testing and inspecting requested by the Contractor and not required by the Contract Documents are Contractor's responsibility.
 7. The Contractor shall submit additional copies of each written report directly to authorities having jurisdiction, when they so direct.
- C. **Manufacturer's Field Services:** Where indicated, the Contractor shall engage a factory-authorized service representative to inspect field-assembled components and equipment installation, including service connections. Results shall be submitted in writing as specified in Section 01 33 00 SUBMITTAL PROCEDURES.
- D. **Retesting/Re-inspecting:** Regardless of whether the original tests or inspections were the Contractor's responsibility, the Contractor shall provide quality-control services, including retesting and re-inspecting, for construction that replaced Work that failed to comply with the Contract Documents.
- E. **Associated Services:** The Contractor shall cooperate with entities performing required tests, inspections, and similar quality-control services, and shall provide reasonable auxiliary services as requested. The Contractor shall notify the testing agency sufficiently in advance of operations to permit assignment of personnel. Provide the following:
1. Access to the Work.
 2. Incidental labor and facilities necessary to facilitate tests and inspections.
 3. Adequate quantities of representative samples of materials that require testing and inspecting. Assist testing entity in obtaining samples.
 4. Facilities for storage and field curing of test samples.
 5. Delivery of samples to testing entities.
 6. Design mix proposed for use for material mixes that require control by the testing entity.
 7. Security and protection for samples and for testing and inspecting equipment at the Project site.
- F. **Coordination:** Coordinate sequence of activities to accommodate required quality-assurance and -control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspecting.
1. Schedule times for tests, inspections, obtaining samples, and similar activities.
 2. Coordinate and cooperate with the Commissioning Authority/Agent as applicable for start-up, inspection and functional testing in the implementation of the Commissioning Plan.
- G. **Manufacturer's Directions:** Where the Specifications provide that the manufacturer's directions are to be used, such printed directions shall be submitted to the Commissioner.
- H. **Inspection of Material:** In the event that the Specifications require the Contractor to engage the services of an entity to witness and inspect any material especially manufactured or prepared for use in or part of the permanent construction, such entity shall be subject to prior written approval by the Commissioner.
1. **NOTICE** - The Contractor shall give notice in writing to the Commissioner sufficiently in advance of its intention to commence the manufacture or preparation of materials especially manufactured or prepared for use in or as part of the permanent construction. Such notice shall contain a request for inspection, the date of commencement and the expected date of completion of the manufacture or preparation of materials. Upon receipt of such notice, the Commissioner will arrange to have a representative present at such times during the manufacture as may be necessary to inspect the materials, or the Commissioner will notify the Contractor that the inspection will be made at a point



other than the point of manufacture, or the Commissioner will notify the Contractor that inspection will be waived.

- I. No Shipping Before Inspection: The Contractor shall comply with the foregoing before shipping any material.
- J. Certificate of Manufacture: When the Commissioner so requires, the Contractor shall furnish to the Commissioner authoritative evidence in the form of Certificates of Manufacture that the materials to be used in the work have been manufactured and tested in conformity with the Specifications. These certificates shall include copies of the results of physical tests and chemical analyses where necessary, that have been made directly on the product, or on similar products being fabricated by the manufacturer. This may include such approvals as B.S.A., M.E.A., B.E.C. Advisory Board, etc.
- K. Acceptance: When materials or manufactured products shall comprise such quantity that it is not practical to make physical tests or chemical analyses directly on the product furnished, a certificate stating the results of such tests or analyses of similar materials which were concurrently produced may, at the discretion of the Commissioner, be considered as the basis for the acceptance of such material or manufactured product.
- L. Testing Compliance: The testing personnel shall make the necessary inspections and tests, and the reports thereof shall be in such form as will facilitate checking to determine compliance with the Specifications, indicating thereon all analyses and/or test data and interpreted results thereof.
- M. Reports: Six (6) copies of the reports shall be submitted and authoritative certification thereof must be furnished to the Commissioner as a prerequisite for the acceptance of any material or equipment.
- N. Rejections: If, in making any test, it is ascertained by the Commissioner that the material or equipment does not comply with the Specifications, the Contractor will be notified thereof, and will be directed to refrain from delivering said materials or equipment, or to promptly remove it from the site or from the work and replace it with acceptable material at no additional cost to the City.
- O. Furnish Designated Materials: Upon rejection of any material or equipment submitted as the equivalent of that specifically named in the Specifications, the Contractor shall immediately proceed to furnish the designated material or equipment.

1.8 APPROVAL OF MATERIALS:

- A. Local Laws: All materials, appliances and types or methods of construction shall be in accordance with the Specifications and shall in no event be less than that necessary to conform to the requirements of the New York City Construction Codes, Administrative Code and Charter of the City of New York.
- B. Approval of Manufacturer: The names of proposed manufacturers, material suppliers, and dealers who are to furnish materials, fixtures, equipment, appliances or other fittings shall be submitted to the Commissioner for approval, as early as possible, to afford proper review and analysis. No manufacturer will be approved for any materials to be furnished under the Contract unless it shall have a plant of ample capacity and shall have successfully produced similar products. All approvals of materials or equipment that are legally required by the New York City Construction Codes and other governing Authorities must be obtained prior to installation.
- C. All Materials: Fixtures, fittings, supplies and equipment furnished under the Contract shall be new and unused, except as approved by the Commissioner, and of standard first-grade quality and of the best workmanship and design. The City of New York encourages the use of recycled products where practical.
- D. INFORMATION TO SUPPLIERS - In asking for prices on materials under any item of the Contract, the Contractor shall provide the manufacturer or dealer with such complete information from the



Specifications and Contract Drawings as may in any case be necessary, and in every case the Contractor shall inform the manufacturer or dealer of all the General Conditions and requirements herein contained.

1.9 SPECIAL INSPECTIONS:

A. SPECIAL INSPECTIONS:

1. Inspection of selected materials, equipment, installation, fabrication, erection or placement of components and connections made during the progress of the Work to ensure compliance with the Contract Documents and provisions of the New York City Construction Codes, shall be made by a Special Inspector. The City of New York will retain the services of the Special Inspector and bear the costs for the performance of Special Inspections in compliance with NYC Construction Codes requirements or as additionally may be called for in the project specifications, except as noted below for Form TR-3: Technical Report for Concrete Design Mix. The Special Inspector shall be an entity compliant with the requirements of the New York City Construction Codes. The Contractor shall notify the relevant Special Inspector in writing at least 72 hours before the commencement of any work requiring special inspection.
2. Form TR3: Technical Report Concrete Design Mix: The contractor shall be responsible for, and bear all costs associated with the filing and securing of approvals, if any, for Form TR3: Technical Report Concrete Design Mix, including, but not limited to, engaging the services of a New York City licensed Concrete Testing Lab for the review and approval of concrete design mix, testing, signatures and professional seals, etc., compliant with NYC Department of Buildings requirements, for each concrete design mix.
3. The Contractor shall notify the relevant Special Inspector in writing at least 72 hours before the commencement of any work requiring Special Inspection. The contractor shall be responsible for, and bear related costs to assure that all construction or work shall remain accessible and exposed for inspection purposes until the required inspection is completed.
4. Inspections and tests performed under "Special Inspection" shall not relieve the Contractor of the responsibility to comply with the Contract Documents, and that there is no warranty given to the Contractor by the City of New York in connection with such inspection and tests or certifications made under "Special Inspections".
5. The contractor must coordinate with the Resident Engineer or DDC Project Manager to provide access and schedule the work for inspection by the Special Inspector.

1.10 INSPECTIONS BY OTHER CITY AGENCIES:

- A. Letter of Completion: Just prior to substantial completion of this Project, the Commissioner will file with the Department of Buildings, an application for a Letter of Completion or a Certificate of Occupancy for the structure.
- B. Final Inspections: In connection with the above mentioned application for a Letter of Completion or a Certificate of Occupancy and before certificates of final payments are issued, the Contractor will be required to arrange for all final inspections by the inspection staff of the Department of Buildings, Fire Department or other Governmental Agencies having jurisdiction, and secure all reports, sign offs, certificates, etc., by such inspection staff or other governmental agencies, in order that a Letter of Completion or Certificate of Occupancy can be issued promptly.

1.11 CERTIFICATES OF APPROVAL:

- A. Responsibility: The Contractor shall be responsible for and shall obtain all final approvals for the work installed under the Contract in the form of such certificates that are required by all governmental agencies having jurisdiction over the work of the Contract.
- B. Transmittal: All such certificates shall be forwarded to the Commissioner through the Resident Engineer.



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

1.12 ACCEPTANCE TESTS:

- A. Government Agencies: All equipment and appliances furnished and installed under the Contract shall conform to the requirements of the Specifications, and shall in no event be less than that necessary to comply with the minimum requirements of the law and all of the governmental agencies having jurisdiction.
- B. Notice of Tests: Whenever the Specifications and/or any governmental agency having jurisdiction requires the acceptance test, the Contractor shall give written notice to all concerned of the time when these tests will be conducted.
- C. Energy: The City will furnish all energy, fuel, water and light required for tests.
- D. Labor and Materials: The Contractor shall furnish labor and all other material and instruments necessary to conduct the acceptance tests at no additional cost to the City.
- E. Certificates: The final acceptance by the Commissioner shall be contingent upon the Contractor delivering to the Commissioner all necessary certificates evidencing compliance in every respect with the requirements of the regulatory agencies having jurisdiction.
- F. Results: If the results of tests and Special Inspections indicate that the material or procedures do not meet requirements as set forth on the Contract Drawings or in the Specifications or are otherwise unsatisfactory, the Contractor shall only proceed as directed by the Resident Engineer. Additional costs resulting from retesting, re-inspecting, replacing of material and/or damage to the work and any delay caused to the schedule shall be borne by the Contractor.

PART II – PRODUCTS (Not Used)

PART III – EXECUTION

3.1 REPAIR AND PROTECTION

- A. General: On completion of testing, inspecting, sample taking, and similar services, the Contractor shall repair damaged construction and restore substrates and finishes.
 - 1. Provide materials and comply with installation requirements specified in other Specification Sections. Restore patched areas and extend restoration into adjoining areas with durable seams that are as invisible as possible.

END OF SECTION 01 40 00



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

Division 01 – DDC STANDARD GENERAL CONDITIONS
SINGLE CONTRACT PROJECTS
Issue Date - June 01, 2013

No Text

QUALITY REQUIREMENTS
01 40 00 - 8



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

SECTION 01 42 00
REFERENCES

PART I – GENERAL

1.1 RELATED DOCUMENTS:

- A. The following documents apply to all required work for the Project: (1) the Contract Drawings, (2) the Specifications, (3) the General Conditions, (4) the Addendum, and (5) the Contract [City of New York Standard Construction Contract].

1.2 DEFINITIONS:

REFER TO THE ADDENDUM, Article IX, FOR ADDITIONAL DEFINITIONS AND REVISIONS TO THE CONTRACT AND SPECIFICATIONS

- A. Refer to Article 2 of the Contract for definition of terms, words and expressions used in the General Conditions not otherwise defined herein.
- B. "APPROVED," ETC. - "Approved," "acceptable," "satisfactory," and words of similar import shall mean and intend approved, acceptable or satisfactory to the Commissioner.
- C. Design Consultant: "Design Consultant" shall mean the entity responsible for providing design services for the Project, including without limitation, preparing the construction documents (drawings and specifications) and providing services in connection with such documents during construction. The entity serving as the "Design Consultant" may be a corporation, firm, partnership, joint venture, individual or combination thereof. Such entity may be either an employee(s) of the City or an entity engaged by the City to provide such services.
- D. "DIRECTED," "REQUIRED," ETC.- Wherever reference is made in the Contract to the work or its performance, the terms "directed," "required," "permitted," "ordered," "designated," "prescribed," "determined," and words of similar import shall, unless expressed otherwise, imply the direction, requirements, permission, order, designation or prescription of the Commissioner.
- E. "Indicated": Requirements expressed by graphic representations or in written form on Drawings, in Specifications, and in other Contract Documents. Other terms including "shown," "noted," "scheduled," and "specified" have the same meaning as "indicated."
- F. "Furnish": Supply and deliver to Project site, ready for unloading, unpacking, assembly, installation, and similar operations.
- G. "Install": Operations at Project site including unloading, temporarily storing, unpacking, assembling, erecting, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations.
- H. "Provide": Furnish and install, complete and ready for the intended use.
- I. "Project Site": Space available for performing construction activities. The extent of Project site is shown on Drawings.



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

Division 01 - DDC STANDARD GENERAL CONDITION
SINGLE CONTRACT PROJECTS
Issue Date - June 01, 2013

1.3 CODES, AGENCIES AND REGULATIONS:

A.D.A.A.G.	Americans with Disabilities Act (ADA) - Architectural Barriers Act (ABA)
B.G. & E.	Bureau of Gas and Electricity of the City of New York
B.S. & A.	New York City Board of Standards and Appeals
DOE	Department of Energy
E.C.C.C.N.Y.S.	Energy Conservation Construction Code of New York State
EPA	Environmental Protection Administration
N.Y.C.C.C.	New York City Construction Codes - includes: New York City Plumbing Code New York City Building Code New York City Mechanical Code New York City Fuel Gas Code
N.Y.S.D.O.L	New York State Department of Labor
N.Y.C.D.E.P	New York City Department of Environmental Protection
N.Y.C.E.C.	New York City Electrical Code
N.Y.C.E.C.C	New York City Energy Conservation Code
N.Y.C.F.C	New York City Fire Code
N.Y.S...D.E.C.	New York State Department of Environmental Conservation
O.S.H.A.	Occupational Safety & Health Administration

1.4 INDUSTRY STANDARDS:

- A. STANDARD REFERENCES - Unless otherwise specifically indicated in the Contract Documents, whenever reference is made to the furnishing of materials or testing thereof that conforms to the standards of any technical society, organization or body, it shall be construed to mean the latest standard, code, specification adopted and published by that technical society, organization or body, as of the date of the bid opening, unless the provisions of the New York City Construction Codes adopt a different or earlier dated version of such standard.
- B. APPLICABILITY OF STANDARDS: Unless the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect, to the extent referenced, as if bound or copied directly into the Contract Documents. Such standards are made a part of the Contract Documents by reference.
- C. CONFLICTING REQUIREMENTS: Where compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantity or quality, comply with the most stringent requirements. Immediately refer uncertainties, and requirements that are different but apparently equal, to the Commissioner in writing for a decision before proceeding.
- D. STANDARD SPECIFICATIONS - When no reference is made to a code, standard or specification, the Standard Specifications of the ASTM or the AIEE, as the case may be, shall govern.
- E. REFERENCES - Reference to a technical society, organization or body may be made in the Specifications by abbreviations. Abbreviations and acronyms used in the Specifications and other Contract Documents mean the associated name. The following names are subject to change and are



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

believed, but are not assured, to be accurate and up-to-date as of the Issue Date of the Contract Documents.

AA	Aluminum Association, Inc. (The)
AAADM	American Association of Automatic Door Manufacturers
AABC	Associated Air Balance Council
AAMA	American Architectural Manufacturers Association
AASHTO	American Association of State Highway and Transportation Officials
AATCC	American Association of Textile Chemists and Colorists (The)
ABAA	Air Barrier Association of America
ABMA	American Bearing Manufacturers Association
ACI	ACI International (American Concrete Institute)
ACPA	American Concrete Pipe Association
AEIC	Association of Edison Illuminating Companies, Inc. (The)
AF&PA	American Forest & Paper Association
AGA	American Gas Association
AGC	Associated General Contractors of America (The)
AGMA	American Gear Manufacturer Association
AHA	American Hardboard Association (Now part of CPA)
AHAM	Association of Home Appliance Manufacturers
AI	Asphalt Institute
AIA	American Institute of Architects (The)
AIEE	American Institute of Electrical Engineers
AISC	American Institute of Steel Construction
AISI	American Iron and Steel Institute
AITC	American Institute of Timber Construction
ALCA	Associated Landscape Contractors of America (Now PLANET - Professional Landcare Network)



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

Division 01 – DDC STANDARD GENERAL CONDITION
SINGLE CONTRACT PROJECTS
Issue Date - June 01, 2013

ALSc	American Lumber Standard Committee, Incorporated
ALI	Automotive Lift Institute
AMCA	Air Movement and Control Association International, Inc.
ANSI	American National Standards Institute
AOSA	Association of Official Seed Analysts, Inc.
APA	APA - The Engineered Wood Association
APA	Architectural Precast Association
API	American Petroleum Institute
ARI	Air-Conditioning & Refrigeration Institute
ARMA	Asphalt Roofing Manufacturers Association
ASA	American Standards Association
ASAE	American Society of Agricultural Engineers
ASCE/SEI	American Society of Civil Engineers, Structural Engineering Institute
ASHRAE	American Society of Heating, Refrigerating and Air-Conditioning Engineers
ASME	American Society of Mechanical Engineers
ASSE	American Society of Sanitary Engineering
ASTM	ASTM International (American Society for Testing and Materials International)
AWCI	AWCI International (Association of the Wall and Ceiling Industry International)
AWCMA	American Window Covering Manufacturers Association (Now WCSC)
AWI	Architectural Woodwork Institute
AWPA	American Wood-Preservers' Association
AWSC	American Welding Society
AWWA	American Water Works Association
BHMA	Builders Hardware Manufacturers Association
BIA	Brick Industry Association (The)



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

Division 01 – DDC STANDARD GENERAL CONDITION
SINGLE CONTRACT PROJECTS
Issue Date - June 01, 2013

BICSI	BICSI
BIFMA	BIFMA International (Business and Institutional Furniture Manufacturer's Association International)
BISSC	Baking Industry Sanitation Standards Committee
CIBSE	Chartered Institute of Building Services Engineers
CCC	Carpet Cushion Council
CDA	Copper Development Association
CEA	Canadian Electricity Association
CFFA	Chemical Fabrics & Film Association, Inc.
CGA	Compressed Gas Association
CGSB	Canadian General Standards Board
CIMA	Cellulose Insulation Manufacturers Association
CIPRA	Cast Iron Pipe Research Association
CISCA	Ceilings & Interior Systems Construction Association
CISPI	Cast Iron Soil Pipe Institute
CLFMI	Chain Link Fence Manufacturers Institute
CPA	Composite Panel Association
CPPA	Corrugated Polyethylene Pipe Association
CPSC	Consumer Product Safety Commission
CRI	Carpet & Rug Institute (The)
CRSI	Concrete Reinforcing Steel Institute
CSA	Canadian Standards Association
CSI	Cast Stone Institute
CSI	Construction Specifications Institute (The)
CSSB	Cedar Shake & Shingle Bureau
CTI	Cooling Technology Institute (Formerly: Cooling Tower Institute)



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

Division 01 – DDC STANDARD GENERAL CONDITION
SINGLE CONTRACT PROJECTS
Issue Date - June 01, 2013

DASMA	Door and Access Systems Manufacturer's Association International
DHI	Door and Hardware Institute
DOC	U.S. Department of Commerce – National Institute of Standards and Technology
EIA	Electronic Industries Alliance
DOJ	U.S. department of Justice
EIMA	EIFS Industry Members Association
DOL	U.S. Department of labor
EJCDC	Engineers Joint Contract Documents Committee
DOTn	U.S. Department of Transportation
EN	European Committee of Standards
EJMA	Expansion Joint Manufacturers Association, Inc.
ESD	ESD Association
EVO	Efficiency Valuation Organization
FEME	Federal Emergency Management Agency
FIBA	Federation Internationale de Basketball Amateur (The International Basketball Federation)
FIVB	Federation Internationale de Volleyball (The International Volleyball Federation)
FMG	FM Global (Formerly: FM - Factory Mutual System)
FMRC	Factory Mutual Research (Now FMG)
FRSA	Florida Roofing, Sheet Metal & Air Conditioning Contractors Association, Inc.
FSA	Fluid Sealing Association
FSC	Forest Stewardship Council
GA	Gypsum Association
GANA	Glass Association of North America
GRI	(Now GSI)
GS	Green Seal
GSI	Geosynthetic Institute

REFERENCES
01 42 00 -6



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

Division 01 – DDC STANDARD GENERAL CONDITION
SINGLE CONTRACT PROJECTS
Issue Date - June 01, 2013

HI	Hydraulic Institute
HI	Hydronics Institute
HMMA	Hollow Metal Manufacturers Association (Part of NAAMM)
HPVA	Hardwood Plywood & Veneer Association
HPW	H. P. White Laboratory, Inc.
HUD	U.S. Department of Housing and Urban Development
IAPMO	International Association of Plumbing and Mechanical Officials
IAS	International Approval Services (Now CSA International)
IBF	International Badminton Federation
ICC	International Code Council, Inc.
ICEA	Insulated Cable Engineers Association, Inc.
ICRI	International Concrete Repair Institute, Inc.
IEC	International Electrotechnical Commission
IEEE	Institute of Electrical and Electronics Engineers, Inc. (The)
IESNA	Illuminating Engineering Society of North America
IEST	Institute of Environmental Sciences and Technology
IGCC	Insulating Glass Certification Council
IGMA	Insulating Glass Manufacturers Alliance
ILI	Indiana Limestone Institute of America, Inc.
ISO	International Organization for Standardization
ISSFA	International Solid Surface Fabricators Association
ITS	Intertek
ITU	International Telecommunication Union
KCMA	Kitchen Cabinet Manufacturers Association
LMA	Laminating Materials Association (Now part of CPA)
LPI	Lightning Protection Institute
MBMA	Metal Building Manufacturers Association



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

Division 01 – DDC STANDARD GENERAL CONDITION
SINGLE CONTRACT PROJECTS
Issue Date - June 01, 2013

MFMA	Maple Flooring Manufacturers Association, Inc.
MFMA	Metal Framing Manufacturers Association
MH	Material Handling (Now MHIA)
MHIA	Material Handling Industry of America
MIA	Marble Institute of America
MPI	Master Painters Institute
MSS	Manufacturers Standardization Society of The Valve and Fittings Industry Inc.
NAAMM	National Association of Architectural Metal Manufacturers
NACE	NACE International (National Association of Corrosion Engineers International)
NADCA	National Air Duct Cleaners Association
NAGWS	National Association for Girls and Women in Sport
NAIMA	North American Insulation Manufacturers Association
NBGQA	National Building Granite Quarries Association, Inc.
NCAA	National Collegiate Athletic Association (The)
NCMA	National Concrete Masonry Association
NCPI	National Clay Pipe Institute
NCTA	National Cable & Telecommunications Association
NEBB	National Environmental Balancing Bureau
NECA	National Electrical Contractors Association
NeLMA	Northeastern Lumber Manufacturers' Association
NEMA	National Electrical Manufacturers Association
NETA	InterNational Electrical Testing Association
NFHS	National Federation of State High School Associations
NFPA	NFPA (National Fire Protection Association)
NFRC	National Fenestration Rating Council

REFERENCES
01 42 00 -8



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

Division 01 – DDC STANDARD GENERAL CONDITION
SINGLE CONTRACT PROJECTS
Issue Date - June 01, 2013

NGA	National Glass Association
NHLA	National Hardwood Lumber Association
NLGA	National Lumber Grades Authority
NIS	National Institute of Standards and Technology
NOFMA	NOFMA: The Wood Flooring Manufacturers Association (Formerly: National Oak Flooring Manufacturers Association)
NRCA	National Roofing Contractors Association
NRMCA	National Ready Mixed Concrete Association
NSF	NSF International (National Sanitation Foundation International)
NSSGA	National Stone, Sand & Gravel Association
NTMA	National Terrazzo & Mosaic Association, Inc. (The)
NTRMA	National Tile Roofing Manufacturers Association (Now TRI)
NWWDA	National Wood Window and Door Association (Now WDMA)
OPL	Omega Point Laboratories, Inc. (Acquired by ITS - Intertek)
PCI	Precast / Pre-stressed Concrete Institute
PDCA	Painting & Decorating Contractors of America
PDI	Plumbing & Drainage Institute
PGI	PVC Geomembrane Institute
PLANET	Professional Landcare Network (Formerly: ACLA - Associated Landscape Contractors of America)
PPS	Power Piping Society
PTI	Post-Tensioning Institute
RCSC	Research Council on Structural Connections
RFCI	Resilient Floor Covering Institute
RIS	Redwood Inspection Service
RMI	Rack Manufacturers Institute
RTI	(Formerly: NTRMA - National Tile Roofing Manufacturers Association) (Now TRI)



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

Division 01 – DDC STANDARD GENERAL CONDITION
SINGLE CONTRACT PROJECTS
Issue Date - June 01, 2013

SAE	SAE International
SCAQMD	South Coast Air Quality Management District
SCS	Scientific Certification System
SDI	Steel Deck Institute
SDI	Steel Door Institute
SEFA	Scientific Equipment and Furniture Association
SGCC	Safety Glazing Certification Council
SHBI	Steel Heating Boiler Institute
SIA	Security Industry Association
SIGMA	Sealed Insulating Glass Manufacturers Association (Now IGMA)
SJI	Steel Joist Institute
SMA	Screen Manufacturers Association
SMACNA	Sheet Metal and Air Conditioning Contractors' National Association
SMPTE	Society of Motion Picture and Television Engineers
SPFA	Spray Polyurethane Foam Alliance (Formerly: SPI/SPFD - The Society of the Plastics Industry, Inc.; Spray Polyurethane Foam Division)
SPIB	Southern Pine Inspection Bureau (The)
SPRI	Single Ply Roofing Industry
SSINA	Specialty Steel Industry of North America
SSPC	SSPC: The Society for Protective Coatings
STI	Steel Tank Institute
SWI	Steel Window Institute
SWRI	Sealant, Waterproofing, & Restoration Institute
TCA	Tile Council of America, Inc.
TIA/EIA	Telecommunications Industry Association/Electronic Industries Alliance
TMS	The Masonry Society



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

Division 01 – DDC STANDARD GENERAL CONDITION
SINGLE CONTRACT PROJECTS
Issue Date - June 01, 2013

TPI	Truss Plate Institute, Inc.
TPI	Turfgrass Producers International
TRI	Tile Roofing Institute (Formerly: RTI - Roof Tile Institute)
UL	Underwriters Laboratories Inc.
ULC	Underwriters Laboratories of Canada
UNI	Uni-Bell PVC Pipe Association
USAV	USA Volleyball
USC	United States Code
USGBC	U.S. Green Building Council
USITT	United States Institute for Theatre Technology, Inc.
WASTEC	Waste Equipment Technology Association
WCLIB	West Coast Lumber Inspection Bureau
WCMA	Window Covering Manufacturers Association (Now WCSC)
WCSC	Window Covering Safety Council (Formerly: WCMA - Window Covering Manufacturers Association)
WDMA	Window & Door Manufacturers Association (Formerly: NWWDA - National Wood Window and Door Association)
WI	Woodwork Institute (Formerly: WIC - Woodwork Institute of California)
WIC	Woodwork Institute of California (Now WI)
WMMPA	Wood Moulding & Millwork Producers Association
WRI	Wire Reinforcement Institute, Inc.
USEPA	United States Environmental Protection Agency
WSRCA	Western States Roofing Contractors Association
WWPA	Western Wood Products Association

PART II – PRODUCTS (Not Used)

PART III – EXECUTION (Not Used)

END OF SECTION 01 42 00

REFERENCES
01 42 00 -11



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

Division 01 – DDC STANDARD GENERAL CONDITION
SINGLE CONTRACT PROJECTS
Issue Date - June 01, 2013

No Text

REFERENCES
01 42 00 -12



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

SECTION 01 50 00
TEMPORARY FACILITIES, SERVICES AND CONTROLS

PART I – GENERAL

1.1 RELATED DOCUMENTS:

- A. The following documents apply to all required work for the Project: (1) the Contract Drawings, (2) the Specifications, (3) the General Conditions, (4) the Addendum, and (5) the Contract [City of New York Standard Construction Contract].

1.2 SUMMARY:

- A. This section includes the following:
- a. Temporary Water System
 - b. Temporary Sanitary Facilities
 - c. Temporary Electric Power, Temporary Lighting System, And Site Security Lighting
 - d. Temporary Heat
 - e. Dewatering Facilities And Drains
 - f. Temporary Field Office for Contractor
 - g. Resident Engineer's Office
 - h. Material Sheds
 - i. Temporary Enclosures
 - j. Temporary Partitions
 - k. Temporary Fire Protection
 - l. Work Fence Enclosure
 - m. Rodent and Insect Control
 - n. Plant Pest Control Requirements
 - o. Project Identification Signage
 - p. Security Guards/Fire Guards on Site
 - q. Project Sign and Rendering
 - r. Safety

1.3 RELATED SECTIONS: include without limitation the following:

- A. Section 01 10 00 SUMMARY
- B. Section 01 42 00 REFERENCES
- C. Section 01 54 11 TEMPORARY ELEVATORS AND HOISTS
- D. Section 01 54 23 TEMPORARY SCAFFOLDS AND SWING STAGING
- E. Section 01 77 00 CLOSE OUT PROCEDURES

1.4 DEFINITIONS:

- A. Refer to Article 2 of the Contract for definition of terms, words and expressions used in the General Conditions not otherwise defined herein.
- B. Permanent Enclosure: As determined by Commissioner, permanent or temporary roofing that is complete, insulated, and weather tight; exterior walls which are insulated and weather tight; and all openings that are closed with permanent construction or substantial temporary closures.



- C. Design Consultant: "Design Consultant" shall mean the entity responsible for providing design services for the Project, including without limitation, preparing the construction documents (drawings and specifications) and providing services in connection with such documents during construction. The entity serving as the "Design Consultant" may be a corporation, firm, partnership, joint venture, individual or combination thereof. Such entity may be either an employee(s) of the City or an entity engaged by the City to provide such services.

1.5 SUBMITTALS:

- A. Site Plan: Show temporary facilities, utility hookups, staging areas, and parking areas for construction personnel.
- B. Reports: Submit reports of tests, inspections, meter readings and similar procedures for temporary use.

1.6 PROJECT CONDITIONS:

- A. Temporary Use of Permanent Facilities and Services: The Contractor shall be responsible for the operation, maintenance, and protection of each permanently installed facility and service while in use during construction before Final Acceptance by the City, regardless of previously assigned responsibilities.
- B. Install, operate, maintain and protect temporary facilities, services and controls.
1. Keep temporary services and facilities clean and neat in appearance.
 2. Operate temporary services in a safe and efficient manner.
 3. Relocate temporary services and facilities as needed as Work progresses.
 4. Do not overload temporary services and facilities or permit them to interfere with progress.
 5. Provide necessary fire prevention measures.
 6. Do not allow hazardous, dangerous or unsanitary conditions, or public nuisances to develop or persist on-site

1.7 NON-REGULAR WORK HOURS (OVERTIME):

- A. The Contractor shall provide the temporary services, facilities and controls set forth in this Section during other than regular working hours if the Drawings and/or the Specifications indicate that the Work, or specific components thereof, must be performed during other than regular working hours. In such case, all costs for the provision of temporary services, facilities and controls during other than regular working hours shall be deemed included in the total Contract Price.
- B. The Contractor shall provide the temporary services, facilities and controls set forth in this Section during other than regular working hours if a change order is issued directing the Contractor to perform the Work, or specific components thereof, during other than regular working hours. In such case, compensation for the provision of temporary services, facilities and controls during other than regular working hours shall be provided through the change order.

1.8 SERVICES BEYOND COMPLETION DATE:

- A. The Contractor shall provide the temporary services, facilities and controls set forth in this Section until the date on which it completes all required work at the site, including all punch list work, as certified in writing by the Resident Engineer, or earlier if so directed in writing by the Commissioner. The Contractor shall provide such temporary services, facilities and controls even if completion of all required work at the site occurs after the time fixed for such completion in Schedule A.



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

PART II – PRODUCTS

2.1 MATERIALS:

- A. Provide undamaged materials in serviceable condition and suitable for use intended.
- B. Tarpaulins: Waterproof, fire-resistant UL labeled with flame spread rating of 15 or less. For temporary enclosures, provide translucent, nylon-reinforced, laminated polyethylene or polyvinyl chloride, fire-retardant tarpaulins.
- C. Water: Potable and in compliance with requirements of the Department of Environmental Protection.

2.2 EQUIPMENT:

- A. Provide undamaged equipment in serviceable condition and suitable for use intended.
- B. Water Hoses: Heavy-duty abrasive-resistant flexible rubber hoses, 100 feet (30 m) long with pressure rating greater than the maximum pressure of the water distribution system. Provide adjustable shutoff nozzles at hose discharge.
- C. Electric Power Cords: Grounded extension cords.
 - 1. Provide hard-service cords where exposed to abrasion or traffic.
 - 2. Provide waterproof connectors to connect separate lengths of electric cords where single lengths will not reach areas of construction activity.
 - 3. Do not exceed safe length-voltage ratio.
- D. Fire Extinguishers: Portable, UL rated; with class and extinguishing agent as required by locations and classes of fire exposures.

PART III – EXECUTION:

3.1 INSTALLATION, GENERAL:

- A. Locate facilities where they will serve the Project adequately and result in minimum interference with performance of the Work. Relocate and modify facilities as required by progress of the Work.
- B. Provide each facility ready for use when needed to avoid delay. Do not remove until facilities are no longer needed or are replaced by authorized use of completed permanent facilities as approved by the Resident Engineer.

3.2 TEMPORARY WATER SYSTEM:

REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 3.2 A

- A. TEMPORARY WATER SYSTEM - NEW FACILITIES: During construction, the Contractor shall furnish a Temporary Water System as set forth below.
 - 1. Immediately after the Commissioner has issued an order to start work, the Contractor shall file an application with the Dept. of Environmental Protection for the schedule of charges for water use during construction. The Contractor will be responsible for payment of water charges.
 - 2. Immediately after the Commissioner has issued an order to start work, the Contractor shall file an application with the Department of Environmental Protection's Bureau of Water Supply and obtain a permit to install the temporary water supply system. The system shall be installed and maintained for the use of the Contractor and its subcontractors. A copy of the above mentioned permit shall be filed with the Commissioner. The Contractor shall provide temporary water main, risers and waste stacks as directed and install on each floor, outlets with two (2) 3/4" hose valve connections over a barrel installed on a steel pan. The Contractor shall provide drains from the pans to the stack and house sewer and hose bibs to drain the water supply



risers and mains. During winter months, the Contractor shall take the necessary precautions to prevent the temporary water system from freezing. The Contractor shall provide repairs to the temporary water supply system for the duration of the project until said temporary system is dismantled and removed.

3. Disposition of Temporary Water System: The Contractor shall be responsible for dismantling the temporary water system when no longer required for the construction operations, or when replaced by the permanent water system installed for the project, or as otherwise directed by the Resident Engineer. All repair work resulting from the dismantling of the temporary water system shall be the responsibility of the Contractor.

REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 3.2 B

B. TEMPORARY WATER SYSTEM – PROJECTS IN EXISTING FACILITIES:

1. When approved by the Commissioner, use of existing water system will be permitted for temporary water service during construction, as long as the system is cleaned and maintained in a condition acceptable to the Commissioner. At Substantial Completion, the Contractor shall restore the existing water system to conditions existing before initial use.
2. The Contractor shall be responsible for all repairs to the existing water system permitted to be used for temporary water service during construction. The Contractor shall be responsible to maintain the existing system in a clean condition on a daily basis, acceptable to the Commissioner.
3. The Contractor will be responsible for payment of water charges as directed by the Commissioner. Billing will be in accordance with the Department of Environmental Protection schedule of charges for Building Purposes.

C. WASH FACILITIES: The Contractor shall install wash facilities supplied with potable water at convenient locations for personnel involved in handling materials that require wash-up for a healthy and sanitary condition.

1. Dispose of drainage properly.
2. Supply cleaning compounds appropriate for each condition.
3. Include safety showers, eyewash fountains and similar facilities for the convenience, safety and sanitation of personnel.

D. DRINKING WATER FACILITIES: The Contractor shall provide drinking water fountains or containerized tap-dispenser bottled-drinking water units, complete with paper cup supplies. Where power is accessible, provide electric water coolers to maintain dispensed water temperature at 45 to 55 deg. F (7 to 13 deg. C).

3.3 TEMPORARY SANITARY FACILITIES:

- A. The Contractor shall provide toilets, wash facilities and drinking water fixtures in compliance with regulations and health codes for type, number, location, operation and maintenance of fixtures and facilities. Provide toilet tissue, paper towels, paper cups and similar disposable materials as appropriate for each facility, and provide covered waste containers for used materials.

REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 3.3 B

B. SELF-CONTAINED TOILET UNITS:

1. The Contractor shall provide temporary single-occupant toilet units of the chemical, aerated recirculation, or combustion type for use by all construction personnel. Units shall be properly vented and fully enclosed with a glass-fiber-reinforced polyester shell or similar nonabsorbent material. Quantity of toilet units shall comply with the latest OSHA regulations.
2. Toilets: Install separate self-contained toilet units for male and female personnel. Shield toilets to ensure privacy.



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 3.3 C

C. EXISTING TOILETS:

1. **TOILET FACILITIES:** When approved by the Commissioner, the Contractor shall arrange for the use of existing toilet facilities by all personnel during the execution of the work. The Contractor shall be responsible to clean and maintain facilities in a condition acceptable to the Resident Engineer and, at completion of construction, to restore facilities to their condition at the time of initial use.
2. **MAINTENANCE** - The Contractor shall maintain the temporary toilet facilities in a clean and sanitary manner and make all necessary repairs.
3. **NUISANCES** - The Contractor shall not cause any sanitary nuisance to be committed by its employees or the employees of its subcontractors in or about the work, and shall enforce all sanitary regulations of the City and State Health Authorities.

3.4 TEMPORARY ELECTRIC POWER, TEMPORARY LIGHTING SYSTEM, AND SITE SECURITY LIGHTING:

- A. **SCOPE:** This Section sets forth the General Conditions and procedures relating to Temporary Electric Power, Temporary Lighting System and Site Security Lighting during the construction period.
- B. **TEMPORARY ELECTRIC POWER:**
The Contractor shall provide and maintain a Temporary Electric Power service and distribution system of sufficient size, capacity and power characteristics required for construction operations for all required work by the Contractor and its subcontractors, including but not limited to power for the Temporary Lighting System, Site Security Lighting, construction equipment, hoists, temporary elevators and all field offices. Temporary Electric Power shall be provided as follows:

REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 3.4 B (1)

1. CONNECTION TO UTILITY LINES:

- a. Temporary Electric Power Service for use during construction shall be provided as follows: The Contractor shall make all necessary arrangements with the Public Utility Company and pay all charges for the Temporary Electric Power system. The Contractor shall include in its total Contract Price any charges for Temporary Electric Power, including charges that may be made by the Public Utility Company for extending its electrical facilities, and for making final connections. The Contractor shall make payment directly to the Public Utility Company.
- b. **APPLICATIONS FOR METER:** The Contractor shall make application to the Public Utility Company and sign all documents necessary for, and pay all charges incidental to, the installation of a watt hour meter or meters for Temporary Electric Power. The Contractor shall pay to the Public Utility Company, all bills for Temporary Electric energy used throughout the work, as they become due.
- c. **SERVICE AND METERING EQUIPMENT** - The Contractor shall furnish and install, at a suitable location on the site, approved service and metering equipment for the Temporary Electric Power System, ready for the installation of the Public Utility Company's metering devices. The temporary service mains to and from the metering location shall be not less than 100 Amperes, 3-phase, 4-wire and shall be of sufficient capacity to take care of all demands for all construction operations and shall meet all requirements of the NYCEC.



REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 3.4 B (2)

2. CONNECTION TO EXISTING ELECTRICAL POWER SERVICE:
 - a. When approved by the Commissioner, electrical power service for the Temporary Lighting System and for the operation of small tools and equipment less than 1/4 horsepower may be taken from the existing electric distribution system if the existing system is of adequate capacity for the temporary power load. The Contractor shall cooperate and coordinate with the facility custodian, so as not to interfere with the normal operation of the facility.
 - b. There will be no charge to the Contractor for the electrical energy consumed.
 - c. The Contractor shall provide, maintain and pay all costs for separate temporary electric power for any temporary power for equipment larger than 1/4 horsepower. When directed by the Commissioner, the Contractor shall remove its own temporary power system.

REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 3.4 B (3)

3. ELECTRICAL GENERATOR POWER SERVICE:
 - a. When connection to Utility Lines or existing facility electric service is not available or is not adequate to supply the electric power need for construction operations, the Contractor shall provide self-contained generators to provide power beyond that available.
 - b. Pay for all energy consumed in the progress of the Work, exclusive of that available from the existing facility or Utility Company.
 - c. Provide for control of noise from the generators.
 - d. Comply with the Ultra Low Sulfur Fuel in Non-Road Vehicles requirements as set forth in Article 5.4 of the Contract.
- C. USE OF COMPLETED PORTIONS OF THE ELECTRICAL WORK:
 1. USE OF MAIN DISTRIBUTION PANEL: As soon as the permanent electric service feeders and equipment, metering equipment and main distribution panel are installed and ready for operation, the Contractor shall have the temporary lighting and power system changed over from the temporary service points to the main distribution panel.
 2. COST OF CHANGE OVER - The Contractor shall be responsible for all costs due to this change over of service and it shall also make application to the Public Utility Company for a watt hour meter to be set on the permanent meter equipment.
 3. The requirements for temporary electric power service specified herein shall be adhered to after change over of service until final acceptance of the project.
 4. NO EXTRA COST - The operation of the service and switchboard equipment shall be under the supervision of the Contractor, but this shall in no way be interpreted to mean the acceptance of such part of the installation or relieve the Contractor from its responsibility for the complete work or any part thereof. There shall be no additional charge for supervision by the Contractor.

REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 3.4 D

- D. TEMPORARY LIGHTING SYSTEM:
 1. The Contractor shall provide adequate service for the temporary lighting system, or a minimum of 100 Amperes, 3-phase, 4-wire service for the temporary lighting system, whichever is



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

- greater, and make all necessary arrangements with the Public Utility Company and pay all charges by them for the Temporary Lighting System
2. The Contractor shall furnish and connect to the metered service point, a Temporary Lighting System to illuminate the entire area where work is being performed and points adjacent to the work, with separately fused circuits for stairways and bridges. Control switches for stairway circuits shall be located near entrance on ground floor.
 3. ITEMS: The Temporary Lighting System provided by the Contractor shall consist of wiring, fixtures, left-hand double sockets, (one (1) double socket for every 400 square feet, with one (1) lamp and one (1) three-prong outlet) lamps, fuses, locked type guards, pigtails and any other incidental material. Additional details may be outlined in the detailed Specifications for the Electrical Work. Changes may be made, provided the full equivalent of those requirements is maintained.
 4. The Temporary Lighting System shall be progressively installed as required for the advancement of the work under the Contract.
 5. RELOCATION: The cost for the relocation or extension of the original Temporary Lighting System, required by the Contractor or its subcontractors, that is not required due to the normal advancement of the work, as determined by the Resident Engineer, shall be borne by the Contractor.
 6. PIGTAILS: shall be furnished with left-hand sockets with locked type guards and 40 feet of rubber covered cable. The Contractor shall furnish and distribute a minimum of three (3) complete pigtails to each subcontractor. See the detailed Electrical Specifications for possible additional pigtails required.
 7. LAMPS: The Contractor shall furnish and install one (1) complete set of lamps, including those for the trailers. Broken and burned out lamps in the temporary lighting system, DDC field office and construction trailers, shall be replaced by the Contractor. All lamps shall be compact fluorescent
 8. CIRCUIT PROTECTION: The Contractor shall furnish and install GFI protection for the Temporary Lighting and Site Security Lighting Systems.
 9. MAINTENANCE OF TEMPORARY LIGHTING SYSTEM:
 - a. The Contractor shall maintain the Temporary Lighting System in good working order during the scheduled hours established.
 - b. The Contractor shall include in its total Contract Price all costs in connection with the Temporary Lighting System, including all costs for installation, maintenance and electric power.
 10. REMOVAL OF TEMPORARY LIGHTING SYSTEM: The temporary lighting system shall be removed by the Contractor when authorized by the Commissioner.
 11. HAND TOOLS: The temporary lighting system shall not be used for power purposes, except that light hand tools not larger than 1/4 horsepower may be operated from such system by the Contractor and its subcontractors.

REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 3.4 E

E. SITE SECURITY LIGHTING (FOR NEW CONSTRUCTION ONLY):

1. The Contractor shall furnish, install and maintain a system of site security lighting, as herein specified, to illuminate the construction site of the project, and it shall be connected to and energized from the Temporary Lighting System. All costs in connection with site security lighting shall be deemed included in the total Contract Price.
2. It is essential that the site security lighting system be completely installed and operating, at the earliest possible date. The Contractor shall direct its subcontractors to cooperate, coordinate and exert every effort to accomplish an early complete installation of the site security lighting system. After the system is installed and in operation, if a part of the system interferes with the work of any trade, the Contractor shall be completely responsible for the expense of removing,



relocating and replacing all equipment necessary to reinstate the system to proper operating conditions.

3. The system shall consist of flood lighting by pole mounted guarded sealed-beam units. Floodlight units shall be mounted 16 feet above grade. Floodlights shall be spaced around the perimeter of the site to produce an illumination level of no less than one (1) foot candle around the perimeter of the site, as well as in any potentially hazardous area or any other area within the site that might be deemed by the Resident Engineer to require security illumination. The system shall be installed in a manner acceptable to the Resident Engineer. The first lighting unit in each circuit shall be provided with a photoelectric cell for automatic control. The photoelectric cell shall be installed as per manufacturer's recommendations.
4. All necessary poles shall be furnished and installed by the Contractor.
5. The site security lighting shall be kept illuminated at all times during the hours of darkness. The Contractor shall, at its own expense, shall keep the system in operation, and shall furnish and install all material necessary to replace all damaged or burned out parts.
6. The Contractor shall be on telephone call alert for maintaining the system during the operating period stated above.
7. All materials and equipment furnished under this section shall remain the property of the Contractor and shall be removed and disposed of by the Contractor when authorized in writing by the Resident Engineer.

REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 3.5

3.5 TEMPORARY HEAT:

A. GENERAL:

1. Definition: The provision of Temporary Heat shall mean the provision of heat in order to permit construction to be performed in accordance with the Progress Schedule during all seasons of the year and to protect the work from the harmful effects of low temperature. In the event the building, or any portion thereof, is occupied during construction, the provision of Temporary Heat shall include the provision of heat to permit normal operations in such occupied areas.
 - a. The provision of Temporary Heat shall be in accordance with the temperature requirements set forth in Sub-Section 3.5 C herein.
 - b. The provision of Temporary Heat shall include the provision of: 1) all fuel necessary and required, 2) all equipment necessary and required, and 3) all operating labor necessary and required. Operating labor shall mean that minimum force required for the safe day to day operation of the system for the provision of Temporary Heat and shall include, without limitation, heating maintenance labor and/or Fire Watch as required by NYC Fire Department regulations. Operating labor may be required seven (7) days per week and during other than normal working hours, for the period of time required by seasonal weather conditions.
 - c. In the event the building, or any portion thereof, is occupied and the Project involves the replacement, modification and/or shut down of the permanent heating system, or any key component thereof; and such system is a combined system which furnishes domestic hot water for the building occupants, the provision of Temporary Heat shall include the provision of domestic hot water at the same temperature as the system which is being replaced. Domestic hot water shall be provided in accordance with the phasing requirements set forth in the Contract Documents.
2. Responsibility: The Contractor's responsibility for the provision of Temporary Heat, including all expenses in connection therewith, shall be as set forth below:
 - a. Projects Involving Enclosure of the Building:



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

Division 01 – DDC STANDARD GENERAL CONDITION
SINGLE CONTRACT PROJECTS
Issue Date - June 01, 2013

- 1) Prior to Enclosure - Until the Commissioner determines that the building has been enclosed, as set forth in Sub-Section 3.5 B; the Contractor shall be responsible for the provision of Temporary Heat.
 - 2) Post Enclosure - Once the Commissioner determines that the building, or any portion thereof, has been enclosed, as set forth in Sub-Section 3.5 B, the Contractor shall be responsible for the provision of Temporary Heat by one or more of the following means: 1) by an existing heating system (if any), 2) by a permanent heating system which is being installed as part of the Project, or 3) by a temporary heating system(s).
 - 3) The Contractor shall, within two (2) weeks of the kick-off meeting, submit to DDC for review its proposed plan to provide Temporary Heat. Such plan is subject to approval by the Resident Engineer. The Contractor shall provide Temporary Heat in accordance with the approved plan until written acceptance by the Commissioner of the work of all Contractors, including punch list work, unless directed otherwise in writing by the Commissioner. The responsibility of the Contractor provided for herein is subject to the exception set forth in Sub-Section 3.5 A.2 (b) herein.
- b. Projects not involving Enclosure of the Building:
- 1) If the Project involves the installation of a new permanent heating system if one did not exist previously, or the replacement, modification and/or shut down of the existing permanent heating system, or any key component thereof, the Contractor shall be responsible for the provision of Temporary Heat, except as otherwise provided in Sub-Section 3.5 H.3(b).2 herein.
 - 2) If the Project does not involve the installation of a new permanent heating system if one did not exist previously, or the replacement, modification and/or shut down of the existing permanent heating system, or any key component thereof; there is no Contractor responsibility of the provision of Temporary Heat, unless otherwise specified in the Contract Documents. However, if the Commissioner, pursuant to Sub-Section 3.5 H.3 (b).1 herein, determines that the provision of Temporary Heat is necessary due to special and/or unforeseen circumstances, the Contractor shall be responsible for the provision of Temporary Heat and shall be paid for the same in accordance with Sub-Section 3.5 H.3 (b).1 herein.
- B. ENCLOSURE OF STRUCTURES:
1. Notification: The Contractor shall notify all its subcontractors and the Resident Engineer at least 30 days prior to the anticipated date that the building(s) will be enclosed.
 2. Commissioner Determination: The Commissioner shall determine whether the building, or any portion thereof, has been enclosed. As indicated in Sub-Section 3.5 A.2 above, once the building has been enclosed, the Contractor shall be responsible for the provision of Temporary Heat. The Commissioner's determination with respect to building enclosure shall be based upon all relevant facts and circumstances, including without limitation, 1) whether the building meets the criteria set forth in Paragraph 3 below, and 2) whether the openings in the building, such as doorways and windows, have been sufficiently covered so as to provide reasonable heat retention and protection from the elements
 3. Criteria for enclosure:
 - a. Roof Area:
 - 1) A building shall be considered to be roofed when the area to be roofed is covered by a permanent structure and all openings through the permanent structure are covered and protected by temporary covers as described in Paragraph (c) below.
 - 2) Intermediate floor structures of multi-floor buildings shall be considered to be roofed subject to the same requirements of the building roof.



- 3) The final roofing system need not be in place for the building or structure to be determined to be enclosed; provided, however, all openings through the permanent structure covering the roof must be covered and protected by temporary covers, as described in Paragraph (c) below.
- b. Walls: For the walls to be determined to be enclosed permanent exterior wall elements or facing material must be in place and all openings must be covered and protected by temporary covers, as described in Paragraph (c) below.
- c. Temporary Covers: In order to be acceptable, temporary covers must be securely fixed to prevent the entrance of rain, snow and direct wind. The minimum material requirements for temporary covers are as follows: 1) minimum 10 mil. Plastic 2) minimum 12 ounce waterproof canvas tarpaulins, or 3) a minimum three-eighths (3/8) inch thickness exterior grade plywood.
- d. Temporary covers for openings shall be the responsibility of the Contractor and such work shall be deemed included in the Contract price.

C. TEMPERATURE REQUIREMENTS:

1. Unoccupied Buildings: The temperature requirement for the provision of Temporary Heat in unoccupied buildings shall be the GREATER of the following: 1) 50 degrees Fahrenheit, or 2) the temperature requirement for the particular type of work set forth in the Contract Documents.
2. Occupied Buildings: The temperature requirement for the provision of Temporary Heat in occupied buildings, or portions thereof, shall be the GREATER of the following: 68 degrees Fahrenheit or the temperature requirement for the particular type of work set forth in the Contract Documents.

D. DURATION:

1. The Contractor shall be required to provide Temporary Heat until the date on which it completes all required work at the site, including all punch list work, as certified in writing by the Resident Engineer, or earlier if so directed in writing by the Commissioner. The Contractor shall be responsible for the provision of Temporary Heat for the time specified herein, regardless of any delays in completion of the Project, including delays that result in the commencement of the provision of Temporary Heat during a season that is later than that which may have been originally anticipated. The Contractor shall include in its Total Contract Price all expenses in connection with the provision of Temporary Heat in accordance with the requirements specified herein.
2. The total Contract duration is set forth in consecutive calendar days in Schedule A of the Addendum. The Table set forth below indicates the number of full heating seasons that are deemed included in various contract durations, which are specified in consecutive calendar days (ccds). At a minimum, a full heating season shall extend from October 15th to April 15th.

Contract Duration	Full Heating Seasons Required
up to 360 ccds	1 full heating season
360 to 720 ccds	2 full heating seasons
more than 720 ccds	3 full heating seasons

E. METHOD OF TEMPORARY HEAT:

1. The method of temporary heat shall be in conformance with the New York City Fire Code and with all applicable laws, rules and regulations. Prior to implementation, such method shall be subject to the written approval of the Commissioner.
2. The method of temporary heat shall:
 - a. Not cause the deposition of dirt or smudges upon any finished work or cause any defacement or discoloration to the finished work.
 - b. Not be injurious or harmful to people or materials.



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

- c. Portable fueled heating devices or equipment SHALL NOT BE ALLOWED for use as temporary heat other than construction-related curing or drying in conformance with the NYC Fire Code.
- 3. No open fires will be permitted.

F. TEMPORARY HEATING SYSTEM:

- 1. The temporary system for the provision of Temporary Heat provided by the Contractor following enclosure of the building shall be complete including, subject to provisions of paragraph E above, boilers pumps, radiators, space heaters, water and heating piping, insulation and controls. The temporary system for the provision of Temporary Heat shall be capable of maintaining the minimum temperature requirements set forth in Paragraph C above.

G. COORDINATION:

- 1. The Contractor, in the provision of Temporary Heat, shall coordinate its operations in order to insure sufficient and timely performance of all required work, including work performed by trade subcontractors. The Contractor shall supply and pay for all water required and used in the building for the operation of the heating system(s) for the purpose of Temporary Heat. The Contractor shall include all expenses in connection with the supply of water for Temporary Heat in its Total Contract Price. During the period in which Temporary Heat in an enclosed building is being furnished and maintained, the Contractor shall provide proper ventilating and drying, open and close the windows and other openings when necessary for the proper execution of the work and also when directed by DDC. The Contractor shall maintain all permanent or temporary enclosures at its own expense.

H. USE OF PERMANENT HEATING SYSTEMS:

- 1. Use of Permanent Heating System for Temporary Heat after Building Enclosure
 - a. The Contractor shall provide all labor and materials to promptly furnish and set all required equipment and convectors and/or radiators, piping, valves, fitting, etc., in ample time for their use for the provision of Temporary Heat after enclosure of the building.
 - b. New portions of the permanent heating system that are used for furnishing Temporary Heat shall be left in near perfect condition when delivered to the City for operation. Any repairs required, other than for ordinary wear and tear on the equipment, shall be made by the Contractor at his/her expense. The starting date for the warranty or guarantee period for such equipment shall be the date of Substantial Completion acceptance.
 - c. In the event that the Contractor does not advance the installation of the permanent heating system in sufficient time to permit its use for Temporary Heat as determined by DDC, the Contractor shall furnish and install a separate system for the provision of Temporary Heat as required to maintain the minimum temperature requirements set forth in Paragraph C above.
- 2. All equipment for the system for the provision of Temporary Heat shall be placed so as to comply with the requirements specified hereinbefore, and shall be connected, disconnected and suitably supported and located so as to permit construction work, including finish work such as wall plastering and painting, to proceed. The installation of the system for the provision of Temporary Heat by the Contractor, including the placing of ancillary system equipment, shall be coordinated with the operations of all trade subcontractors so as to insure sufficient and timely performance of the work. Once the permanent heating system is operating properly, the Contractor shall remove all portions of the system for Temporary Heat not part of the permanent heating system.
- 3. Temporary Heat Allowance for Special Conditions or and/or Unforeseen Circumstances.
 - a. The City may establish an allowance in the Contract for payment of costs and expenses in connection with the provision of Temporary Heat as set forth herein. If established, the City will include an amount for such allowance on the Bid Form, and the Contractor shall



include such allowance amount in its Total Contract Price. The Contractor shall only be entitled to payment from this allowance under the conditions and in accordance with the requirements set forth below. In the event this allowance or any portion thereof remains unexpended at the conclusion of the Contract, such allowance shall remain the sole property of the City. Should the amount of the allowance be insufficient to provide payment for the expenses specified below, the City will increase the amount of the allowance.

- b. The allowance set forth herein may be utilized only under the conditions set forth below.
 - 1. In the event the Project does not involve the installation of a new permanent heating system if one did not exist previously, or the replacement, modification and/or shut down of the existing permanent heating system, or any key component thereof, and the Commissioner determines that the provision of Temporary Heat is necessary due to special and/or unforeseen circumstances, the Contractor shall be responsible for the provision of Temporary Heat, as directed by the Commissioner. The City shall pay such Contractor for all costs for labor, material, and equipment necessary and required for the same. Payment shall be made in accordance with Article 26 of the Contract, except that the cost of fuel shall be as set forth in Paragraph (c) below.
 - 2. In the event the Commissioner determines that there is a need for maintenance of the permanent heating system by the Contractor after written acceptance by the Commissioner of the work, and that the need for such maintenance is not the fault of the Contractor, the Contractor shall provide the required maintenance of the permanent heating system for the period of time directed by the Commissioner. The City shall pay the Contractor for the cost of direct labor and fuel necessary and required in connection with such maintenance, excluding the cost of any foremen or other supervision. Payment shall be made in accordance with Article 26 of the Contract, except that the cost of fuel shall be as set forth in Paragraph (c) below.
- c. Payment for Fuel Costs - Payment from the allowance set forth herein for the cost of fuel necessary and required to operate the system for the provision of Temporary Heat or to maintain the permanent heating system under the conditions set forth in Paragraph b above shall be limited to the direct cost of such fuel. The Contractor shall not be entitled to any overhead and/or profit for such fuel costs. In order to receive payment for such fuel costs, the Contractor must present original invoices for the same. DDC reserves the right to furnish the required fuel.

I. RELATED ELECTRICAL WORK:

- 1. The Contractor shall be responsible for providing the items set forth below and shall include all expenses in connection with such items in its Total Contract Price. The Contractor shall provide such items promptly when required and shall in all respects coordinate its work with the work performed by trade subcontractors in order to facilitate the provision of Temporary Heat.
 - a. The Contractor shall provide all labor, materials, equipment and power necessary and required to furnish and maintain any temporary or permanent electrical connections to all equipment specified to be connected as part of the work of his Contract.
 - b. The Contractor shall supply and pay for all power necessary and required for the operation of the system for the provision of Temporary Heat and/or the permanent heating system used for Temporary Heat. Such power shall be provided by the Contractor for the duration the Contractor is required to provide Temporary Heat, as set forth in Sub-Section 3.5 D herein.
- 2. In providing the items set forth in Paragraph 1 above, the Contractor is advised that labor may be required seven (7) days a week and/or during other than normal working hours for the period of time required by seasonal weather conditions.



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

J. RELATED PLUMBING WORK:

1. The Contractor shall be responsible for providing all labor, materials and equipment necessary and required to furnish and maintain all temporary or permanent connections to all equipment or plumbing outlets specified to be provided as part of the work of this Contract. The Contractor shall include all expenses in connection with such items of work in its Total Contract Price. The Contractor shall provide such items of work promptly when required and shall in all respects coordinate its work with the work performed by trade subcontractors in order to facilitate the provision of Temporary Heat.
2. In the event portions of the permanent plumbing equipment furnished by the Contractor as part of the work of this Contract are used for the provision of Temporary Heat either during construction or prior to acceptance by the City of the complete plumbing system, the Contractor shall be responsible to provide such plumbing equipment to the City in near perfect condition and shall make any repairs required, other than for ordinary wear and tear on the equipment, at his expense. The starting date for warranty and/or guarantee period for such plumbing equipment shall be the date of Substantial Completion acceptance by the City.
3. For Projects requiring the installation of new and/or modified gas service, as well as associated meter installations, the Contractor shall promptly perform all required filings and coordination with the Utility Companies in order to expedite the installation, testing, and approval of the gas service and associated meter(s).

3.6 STORM WATER CONTROL, DEWATERING FACILITIES AND DRAINS:

A. PUMPING:

1. Comply with requirements of authorities having jurisdiction. Maintain Project site, excavations, and construction free of water. Provide barriers in and around excavations and subgrade construction to prevent flooding by runoff of storm water from heavy rainfall.
2. Contractor shall furnish and install all necessary automatically operated pumps of adequate capacity with all required piping to run-off agencies, so as to maintain the excavation, cellar floor, pits and exterior depressions and excavations free from accumulated water during the entire period of construction and up to the date of final acceptance of work of the Contract.
3. All pumps shall be maintained at all times in proper working order.
4. Dispose of rainwater in a lawful manner that will not result in flooding Project or adjoining properties nor endanger permanent Work or temporary facilities.
5. Remove snow and ice as required to minimize accumulations.

3.7 TEMPORARY FIELD OFFICE FOR CONTRACTOR:

- A. The Contractor shall establish a temporary field office for its own use at the site during the period of construction, at which readily accessible copies of all Contract Documents shall be kept.
- B. The field office shall be located where it will not interfere with the progress of any part of the work or with visibility of traffic control devices.
- C. **CONTRACTOR'S REPRESENTATIVE:** In charge of the office there shall be a responsible and competent representative of the Contractor, duly authorized to receive orders and directions and to put them into effect.
- D. Arrangements shall be made by the Contractor whereby its representative may be readily accessible by telephone.
- E. All temporary structures shall be of substantial construction and neat appearance, and shall be painted a uniform gray unless otherwise directed by the Commissioner.
- F. **CONTRACTOR'S SIGN** - The Contractor shall post and keep posted, on the outside of its field office, office or exterior fence or wall at site of work, a legible sign giving full name of the company, address of the company and telephone number(s) of responsible representative(s) of the firm who can be reached in event of an emergency at any time.



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

- G. **ADVERTISING PRIVILEGES** - The City reserves the right to all advertising privileges. The Contractor shall not cause any signs of any kind to be displayed at the site unless specifically required herein or authorized by the Commissioner.

3.8 DDC FIELD OFFICE:

REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 3.8 A

A. OFFICE SPACE IN EXISTING BUILDING:

1. The Resident Engineer will arrange for office space for sole use in the building where work is in progress. The Contractor shall provide and install a lockset for the door to secure the equipment in the room. The Contractor shall provide two (2) keys to the Resident Engineer. After completion of the project the Contractor shall replace the original lockset on the door and ensure its proper operation.
2. In addition to equipment specified in Sub-Section 3.8 D, the Contractor shall provide, for exclusive use of the DDC Field Office, the following:
 - a. Two (2) single pedestal desks, 42" x 32"; two (2) swivel chairs with arms and three (3) side chairs without arms to match desk. Two metal (2) lockers, single units, 15" x 18" x 78" overall including 6" legs. Lockers to have flat key locks with two (2) keys each, General Steel products or approved equal. Two (2) full ball bearing suspension four (4) drawer vertical legal filing cabinets with locks, approximately 52"H x 28 1/2"D x 18"W.
 - b. One (1) 9000 B.T.U air conditioner or as directed by Commissioner. Wiring for the air conditioner shall be minimum No. 12 AWG fed from individual circuits in the fuse box.
 - c. One (1) folding conference table, 96" x 30" and ten (10) folding chairs.
 - d. Two (2) metal wastebaskets.
 - e. One (1) fire extinguisher, one (1) quart vaporizing liquid type, brass, wall mounted by Pyrene No. C21 or approved equal.
 - f. One (1) Crystal Springs water cooler with bottled water, Model No. LP14058 or approved equal to be furnished for the duration of the project as required.
3. The Contractor shall provide one (1) telephone, where directed and shall pay all costs for telephone service for calls within the New York City limits for the duration of the project.
4. All furniture and equipment, except computer equipment specified in Sub-Section 3.8 D.3, shall remain the property of the Contractor.
5. Computer Workstation quantities shall be provided as specified in Sub-Section 3.8 B 3-a for DDC Managed Projects, or Sub-Section 3.8 B 3-b for CM Managed projects.

REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 3.8 B

B. DDC FIELD OFFICE TRAILER:

1. **GENERAL:** The Contractor shall, for the time frame specified herein, provide and maintain at its own cost and expense a DDC Construction Field Office and all related items as specified herein [hereinafter collectively referred to as the "DDC Field Office"] for the exclusive use of the Resident Engineer. The DDC Field Office shall be located at the Project site and shall be solely dedicated to the Project. Provision of the DDC Field Office shall commence within THIRTY (30) days from Notice to proceed and shall continue through forty-five (45) days after Substantial Completion of the required construction at the Project site. The Contractor shall remove the DDC Field Office forty-five (45) days after Substantial Completion of the required construction, or as otherwise directed in writing by the Commissioner.
2. **TRAILER:** The Contractor shall provide at its own cost and expense a mobile office trailer for use as the DDC Field Office. The Contractor shall install and connect all utility services to the



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

trailer within thirty (30) days from Notice to Proceed. The trailer shall have equipment in compliance with the minimum requirements hereinafter specified. Any permits and fees required for the installation and use of said trailer shall be borne by the Contractor. The trailer including furniture and equipment therein, except computer equipment specified in Sub-Section 3.8D.3 herein, shall remain the property of the Contractor.

3. Trailer shall be an office type trailer of the size specified herein, with exterior stairs at entrance. Trailer construction shall be minimum 2 x 4 wall construction fully insulated with paneled interior walls, pre-finished gypsum board ceilings and vinyl tile floors.

**REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 3.8.B.3a or
SUB-SECTION 3.8.B.3b**

- a. DDC Managed Project Trailer: DDC Field Office Trailer Size, Layout and Computer Workstation:
- 1) Overall length: 32 Feet
Overall width: 10 Feet
 - 2) Interior Layout:
Provide one (1) general office/conference room area and one (1) private office at one end of the trailer. Provide equipment and amenities as specified in Sub-Section 3.8.B herein.
 - 3) Computer Workstation: Provide one (1) complete computer workstation, as specified in Sub-Section 3.8.D herein, in the private office area as directed by the Resident Engineer.
- b. CM Managed Project Trailer: DDC Field Office Trailer Size, Layout and Computer Workstation:
- 1) Overall length: 50 Feet
Overall width: 10 Feet
 - 2) Interior Layout:
Provide one (1) large general office/conference room in the center of the trailer and two (2) private offices, one (1) each at either end of the trailer. Provide equipment and amenities as specified in Sub-Section 3.8.B herein.
 - 3) Computer Workstation:
Provide three (3) complete computer workstations as specified in Sub-Section 3.8.D herein. Provide one (1) each complete computer workstation in each private office and one (1) complete computer workstation at the secretarial position as directed by the Resident Engineer.
4. The exterior of the trailer shall be lettered with black block lettering of the following heights with white borders:
- | | |
|---------------------------------------|--------|
| CITY OF NEW YORK | 2-1/2" |
| DEPARTMENT OF DESIGN AND CONSTRUCTION | 3-3/4" |
| DIVISION OF PUBLIC BUILDINGS | 3-1/2" |
| DDC FIELD OFFICE | 2-1/2" |
- NOTE: In lieu of painting letters on trailer the Contractor may substitute a sign constructed of a good quality weatherproof material with the same type and size of lettering above.
5. All windows and doors shall have aluminum insect screens. Provide wire mesh protective guards at all windows.
6. The interior shall be divided by partitions into general and private office areas as specified herein. Provide a washroom located adjacent to the private office and a built-in wardrobe closet opposite the washroom. Provide a built-in desk in the private office(s) with fixed overhead shelf and clearance below for two (2) file cabinets.



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

7. Provide a built-in drafting or reference table, located in the general office/conference room, at least 60 inches long by 36 inches wide with cabinet below and wall type plan rack at least 42 inches wide.
8. The washroom shall be equipped with a flush toilet, wash basin with two (2) faucets, medicine cabinet, complete with supplies and a toilet roll tissue holder. Plumbing and fixtures shall be approved house type, with each appliance trapped and vented and a single discharge connection. Five (5) gallon capacity automatic electric heater for domestic hot water shall be furnished.
9. HVAC: The trailer shall be equipped with central heating and cooling adequate to maintain a temperature of 72 degrees during the heating season and 75 degrees during the cooling season when the outside temperature is 5 degrees F. winter and 89 degrees F. summer.
10. Lighting shall be provided via ceiling mounted fluorescent lighting fixtures to a minimum level of 50 foot candles in the open and private office(s) along with sufficient lighting in the washroom. Broken and burned out lamps shall be replaced by the Contractor. A minimum of four (4) duplex convenience outlets shall be provided in the open office and two (2) each in the private office(s). These outlets shall be in addition to special outlet requirements for computer stations, copiers, HVAC unit, etc.
11. Electrical service switch and panel shall be adequately sized for the entire trailer load. Provide dedicated circuits for HVAC units, hot water heater, copiers and other equipment as required. All wiring and installation shall conform to the New York City Electrical Code.
12. The following movable equipment shall be furnished:
 - a. Two (2) single pedestal desks, 42" x 32"; two (2) swivel chairs with arms and three (3) side chairs without arms to match desk. Two (2) full ball bearing suspension four (4) drawer vertical legal filing cabinets with locks and two (2) full ball bearing two (2) drawer vertical legal filing cabinets in each private office located below built-in desk.
 - b. One (1) folding conference table, 96" x 30" and ten (10) folding chairs.
 - c. Three (3) metal wastebaskets.
 - d. One (1) fire extinguisher one (1) quart vaporizing liquid type, brass, wall mounted by Pyrene No. C21 or approved equal.
 - e. One (1) Crystal Springs water cooler with bottled water, Model No. LP14058 or approved equal to be furnished for the duration of the Contract as required.
13. TRAILER TEMPORARY SERVICE: Plumbing and electrical work required for the trailer will be furnished and maintained as below.
 - a. PLUMBING WORK: The Contractor shall provide temporary water and drainage service connections to the DDC Field Office trailer for a complete installation. Provide all necessary soil, waste, vent and drainage piping.
Contractor to frost-proof all water pipes to prevent freezing.
 - 1) REPAIRS, MAINTENANCE: The Contractor shall provide repairs for the duration of the project until the trailer is removed from the site.
 - 2) DISPOSITION OF PLUMBING WORK: At the expiration of the time limit set forth in Article 3.8 A.14(c).4 herein, the temporary water and drainage connections and piping to the DDC Field Office trailer shall be removed by the Contractor and shall be plugged at the mains. All piping shall become the property of the Contractor for Plumbing Work and shall be removed from the site, all as directed. All repair work due to these removals shall be the responsibility of the Contractor.
 - b. ELECTRICAL WORK:
 - 1) The Contractor shall furnish, install and maintain a temporary electric feeder to the DDC Field Office trailer immediately after it is placed at the job site.
 - 2) The temporary electrical feeder and service switch/fuse shall be adequately sized based on the trailer load and installed per the New York City Electrical Code and complying with utility requirements.



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

Division 01 – DDC STANDARD GENERAL CONDITION
SINGLE CONTRACT PROJECTS
Issue Date - June 01, 2013

- 3) Make all arrangements and pay all costs to provide electric service.
 - 4) The Contractor shall pay all costs for current consumed and for maintenance of the system in operating condition, including the furnishing of the necessary bulb replacements lamps, etc., for the duration of the project and for a period of forty-five (45) days after the date of Substantial Completion.
 - 5) Disposition of Electric Work: At the expiration of the time limit set forth, the temporary feeder, safety switch, etc., shall be removed and disposed of as directed.
 - 6) All repair work due to these removals shall be the responsibility of the Contractor.
- c. **MAINTENANCE**
- 1) The Contractor shall provide and pay all costs for regular weekly janitor service and furnish toilet paper, sanitary seat covers, cloth towels and soap and maintain the DDC Field Office in first-class condition, including all repairs, until the trailer is removed from the site.
 - 2) Supplies: The Contractor shall be responsible for providing (a) all office supplies, including without limitation, pens, pencils, stationery, filtered drinking water and sanitary supplies, and (b) all supplies in connection with required computers and printers, including without limitation, an adequate supply of blank CD's/DVD's, storage boxes for blank CDs/DVDs, and paper and toner cartridges for the printer.
 - 3) Risk of Loss: The entire risk of loss with respect to the DDC Field Office and equipment shall remain solely and completely with the Contractor. The Contractor shall be responsible for the cost of any insurance coverage determined by the Contractor to be necessary for the Field Office.
 - 4) At forty-five (45) days after the date of Substantial Completion, or sooner as directed by the Commissioner, the Contractors shall have all services disconnected and capped to the satisfaction of the Commissioner. All repair work due to these removals shall be the responsibility of the Contractor.
- d. **TELEPHONE SERVICE**: The Contractor shall provide and pay all costs for the following telephone services for the DDC Field Office trailer:
- 1) Separate telephone lines for one (1) desk phone in each private office.
 - 2) One (1) wall phone (with six (6) foot extension cord) at plan table.
 - 3) Separate telephone lines for the fax machine and internet access in each private office. Telephone service shall include voice mail.
 - 4) A remote bell located on outside of trailer
 - 5) The telephone service shall continue until the trailer is removed from the site.
- e. **PERMITS**: The Contractor shall make the necessary arrangements and obtain all permits and pay all fees required for this work.

- C. **RENTED SPACE**: The Contractor has the option of providing, at its cost and expense, rented office or store space in lieu of trailer. Said space shall be in the immediate area of the Project and have adequate plumbing, heating and electrical facilities. Space chosen by the Contractor for the DDC Field Office must be approved by the Commissioner before the area is rented. All insurance, maintenance and equipment, including computer workstations specified in Sub-Section 3.8 D in quantities required as specified in Sub-Section 3.8 B 3 for the DDC Field Office trailer, shall also apply to rented spaces.

REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 3.8 D

- D. **ADDITIONAL EQUIPMENT FOR THE DDC FIELD OFFICE**:
1. The Contractor shall provide a high volume copy machine (50 copies per minute) for paper sizes 8½ x 11, 8½ x 14 & 11 x 17. Copier shall remain at job site until the DDC Field office trailer is removed from the site.



2. The Contractor shall furnish a fax machine and a telephone answering machine at commencement of the project for the exclusive use of the DDC Field Office. All materials shall be new, sealed in manufacturer's original packaging and shall have manufacturers' warranties. All items shall remain the property of the City of New York at the completion of the project.
3. **COMPUTER WORKSTATION:** The Contractor shall provide a complete computer workstation as specified herein:
 - a. **Hardware/Software Specification:**
 - 1) **Computer Equipment** - Computers shall be provided for all contracts that have a Total Consecutive Calendar Days for construction duration as set forth in Schedule "A" of 180 CCD's or greater. Contracts of lesser duration shall not require computers.
 - 2) Computers furnished by the Contractor for use by City Personnel, for the duration of the contract, shall be in accordance with Specific Requirements, contained herein, shall remain the property of the City of New York at the completion of the project and shall meet the following minimum requirements:
 - 3) **Personal Computer(s) – Each Workstation Configuration.**
 - a) **Make and Model:** Dell; HP; Gateway; Acer; or, an approved equivalent. (Note: an approved equivalent requires written approval of the Assistant Commissioner of ITS.)
 - b) **Processor:** i5-2400 (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.
 - e) **CD-RW:** Internal CD-RW, 48x Speed or faster.
 - f) **16xDVD+/-RW** DVD Burner (with double layer write capability) 16x Speed or faster
 - g) **I/O Ports:** Must have at least one (1) Serial Port, one (1) Parallel Port, and three (3) USB Ports.
 - h) **Video Display Card:** HD Graphics (VGA, HDMI) with a minimum of 64 MB of RAM.
 - i) **Monitor:** 22" W, 23.0 Inch VIS, Widescreen, VGA/DVI LCD Monitor.
 - j) **Available Exp. Slots:** System as configured above shall have at least two (2) full size PCI Slots available.
 - k) **Network Interface:** Integrated 10/100/1000 Ethernet card.
 - l) **Other Peripherals:** Optical scroll Mouse, 101 Key Keyboard, Mouse Pad and all necessary cables.
 - m) **Software Requirement:** Microsoft Windows 7 Professional SP1, 32 bit; Microsoft Office Professional 2010 or 2013; Microsoft Project 2010; Adobe Acrobat reader; Anti-Virus software package with 2 year updates subscription; and, either Auto Cad LT or Microsoft



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

Division 01 – DDC STANDARD GENERAL CONDITION
SINGLE CONTRACT PROJECTS
Issue Date - June 01, 2013

Visio Standard Edition, as directed by the Resident Engineer.

- 4) DDC Field Office Specs: DDC Field Offices requiring computers shall be provided with the following:

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

Office Personnel #	Upload Speeds (Minimum)
1 – 5	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).

- b) One (1) 600 DPI HP Laser Jet Printer (twelve (12) pages per minute or faster) with one (1) Extra Paper (Legal Size)
- c) All necessary cabling for equipment specified herein.
- d) Storage Boxes for Blank CD's
- e) Printer Table
- f) UPS/Surge Suppressor combo
- 5) All computers required for use in the Engineer's Field Office shall be delivered, installed, and setup in the Field Office by the Contractor.
- 6) All Computer Hardware shall come with a three (3) year warranty for on-site repair or replacement. Additionally, and notwithstanding any terms of the warranty to the contrary, the Contractor is responsible for rectifying all computer problems or equipment failures within one (1) business day.
- 7) An adequate supply of blank CDs/DVDs, and paper and toner cartridges for the printer shall be provided by the Contractor, and shall be replenished by the Contractor as required by the Resident Engineer.
- 8) It is the Contractor's responsibility to ensure that electrical service and phone connections are also available at all times; that is, the Field Office Computer(s) is to be powered and turned on twenty-four (24) hours each day.
- 9) Broadband connectivity is preferred at each field office location. Please take into consideration that an extra phone line dedicated to the modem must be ordered as part of the contract unless Internet broadband connectivity, via Cable or DSL, is available at the planned field office location. Any questions regarding this policy should be directed to the Assistant Commissioner of Information Technology Services at 718-391-1761.
- 10) Ownership: The equipment specified above shall, unless otherwise directed by the Commissioner, be the sole property of the City of New York upon delivery to the DDC Field Office. The Contractor shall prepare and maintain an accurate inventory of all equipment which it purchases for the DDC Field Office. Such inventory shall be provided to the City of New York. Upon completion of the



required services, as directed by the Commissioner, the Contractor shall turn such equipment over to the City of New York.

E. HEAD PROTECTION (HARD HATS):

1. The Contractor shall provide a minimum of 10 standard protective helmets for the exclusive use of Department of Design and Construction personnel and their visitors. Helmets shall be turned over to the Resident Engineer and kept in the DDC Field Office.
2. Upon completion of the project, the helmets shall become the property of the Contractor.

3.9 MATERIAL SHEDS:

- A. Material sheds used by the Contractor for the storage of its materials shall be kept at locations which will not interfere at any time with the progress of any part of the work or with visibility of traffic control devices.
- B. Store combustible materials apart from the facility.

3.10 TEMPORARY ENCLOSURES:

- A. Provide temporary enclosures for protection of construction, in progress and completed, from exposure, foul weather, other construction operations, and similar activities. Provide temporary weather tight enclosure for building exterior.
- B. Where heating or cooling is needed and permanent enclosure is not complete, insulate temporary enclosures.

3.11 TEMPORARY PARTITIONS:

- A. Provide floor-to-ceiling dustproof partitions to limit dust and dirt migration and to separate occupied tenant areas from fumes and noise.
 1. Construct dustproof partitions with gypsum wallboard with joints taped on occupied side, and fire-retardant plywood on construction operations side.
 2. Construct dustproof partitions with 2 layers of 3-mil (0.07-mm) polyethylene sheet on each side. Cover floor with 2 layers of 3-mil (0.07-mm) polyethylene sheet, extending sheets 18 inches (460 mm) up the sidewalls. Overlap and tape full length of joints. Cover floor with fire-retardant plywood.
 - a. Construct vestibule and airlock at each entrance through temporary partition with not less than 48 inches (1219 mm) between doors. Maintain water-dampened foot mats in vestibule.
 3. Insulate partitions to provide noise protection to occupied areas.
 4. Seal joints and perimeter. Equip partitions with dustproof doors and security locks.
 5. Protect air-handling equipment.
 6. Weather strip openings.
 7. Provide walk-off mats at each entrance through temporary partition.

3.12 TEMPORARY FIRE PROTECTION:

- A. Install and maintain temporary fire-protection facilities of types needed to protect against reasonably predictable and controllable fire losses. Comply with NFPA 241.
- B. Prohibit smoking in all areas.
- C. Supervise welding operations, combustion-type temporary heating units, and similar sources of fire ignition according to requirements of authorities having jurisdiction.



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

- D. Develop and supervise an overall fire-prevention and protection program for personnel at Project site. Review needs with local fire department and establish procedures to be followed. Instruct personnel in methods and procedures. Post warnings and information.
- E. Provide temporary standpipes and hoses for fire protection. Hang hoses with a warning sign stating that hoses are for fire-protection purposes only and are not to be removed. Match hose size with outlet size and equip with suitable nozzles.

REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 3.13

3.13 WORK FENCE ENCLOSURE:

- A. The Contractor shall furnish, erect and maintain a wood construction or chain-link fence to the extent shown on the drawings or required by the work enclosing the entire project on all sides. All materials used shall be new. Any permit required for the installation and use of said fence and costs shall be borne by the Contractor.
- B. WOOD FENCE shall be 7'-0" high with framing construction of yellow pine, using 4" x 4" approved preservative-treated posts on not more than 6'-0" centers, with three (3) rails of at least 2" x 4" size to which shall be secured minimum 1/2 inch thick exterior grade plywood. Posts shall be firmly fixed in the ground at least 30" and thoroughly braced. Top edge of fence shall be trimmed with a rabbeted edge mould. Provide on the street traffic sides of fence, observation openings as directed.
 - 1. GATES - Provide an adequate number of double gates, complete with hardware, located as approved by the Resident Engineer. Double gates shall have a total clear opening of 14'-0" with two (2) 7'-0" hinged swinging sections. Hanging posts shall be 6" x 6" and shall extend high enough to receive and be provided with tension or sag rods for the swinging sections.
 - 2. PAINTING - The fence and gates shall be entirely painted on the street and public sides with one (1) coat of exterior primer and one (1) top coat of exterior grade acrylic-latex emulsion paint. Black stenciled signs reading "POST NO BILLS" shall be painted on fence with three (3) inch high letters on 25 foot spacing for the entire length of fence on street traffic sides. Signs shall be stenciled five (5) feet above the sidewalk.
- C. CHAIN-LINK FENCING shall be minimum 2-inch thick, galvanized steel, chain-link fabric fencing; 8 feet high with galvanized steel pipe posts; minimum 2-3/8-inch OD line posts and 2-7/8-inch OD corner and pull posts, with 1-5/8-inch OD top and bottom rails. Fence shall be accurately aligned and plumb, adequately braced and complete with gates, locks and hardware as required. Under no condition shall fencing be attached or anchored to existing construction or trees.
- D.
 - 1. It shall be the obligation of the Contractor to remove all posters, advertising signs, and markings, etc., immediately.
 - 2. Should the fencing be required to be relocated during the course of the Contract, it shall be done by the Contractor at no additional cost to the City.
 - 3. Where sidewalks are used for "drive over" purposes for Contractor vehicles, a suitable wood mat or pad shall be provided for protection of sidewalks and curbs.
 - 4. Where required, make provision for fire hydrants, lampposts, etc.
 - 5. REMOVAL - When directed by the Resident Engineer, the fence shall be removed.

3.14 RODENT AND INSECT CONTROL:

- A. DESCRIPTION: The Contractor shall provide all labor, materials, plant and equipment, and incidentals required to survey and monitor rodent activity and to control any infestation or outbreak of rodents, rats, mice, water beetles, roaches and fleas within the project area. Special attention should be paid to the following conditions or areas:



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

Division 01 – DDC STANDARD GENERAL CONDITION
SINGLE CONTRACT PROJECTS
Issue Date - June 01, 2013

1. Wet areas within the project area, including all temporary structures.
 2. All exterior and interior temporary toilet structures within the project area.
 3. All Field Offices and shanties within the project area of all subcontractors and DDC.
 4. Wherever there is evidence of food waste and/or discarded food or drink containers, in quantity, that would cause breeding of rodents or the insects herein specified.
 5. Any other portion of the premises requiring such special attention.
- B. MATERIALS:
1. All materials shall be approved by the New York State Department of Environmental Conservation and comply with the New York City Health Code, OSHA and the laws, ordinances and regulations of State and Federal agencies pertaining to such chemical and/or materials.
- C. PERSONNEL:
1. All pest control personnel must be supervised by an exterminator licensed in categories 7A and 8.
- D. METHODS:
1. Application and dosage of all materials shall be done in strict compliance with the manufacturer's recommendations.
 2. Any unsanitary conditions, such as uncollected garbage or debris, resulting from all 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 Resident Engineer.
- E. RODENT CONTROL WORK:
1. 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 all stream banks. Live traps must be used in these seventy-five (75) foot buffer zone areas and within wetland and woodland areas.
 2. In areas outside the seventy-five (75) foot zone of protection adjacent to streams, and in areas outside wetlands and woodlands, tamper proof bait stations with poisoned bait shall be placed during the period of construction and any consumed or decomposed bait shall be replenished as directed.
 3. At least one month prior to initiation of the construction work, and periodically thereafter, live traps and/or rodenticide bait in tamper proof bait stations, as directed above, shall be placed at locations that are inaccessible to pets, human beings, children and other non-target species, particularly wildlife (for example-birds) in the project area.
 4. The Contractor shall be responsible for collecting and disposing of all trapped and poisoned rodents found in live traps and tamper proof bait stations. The Contractor shall also be responsible for posting and maintaining signs announcing the baiting of each particular location.
The Contractor shall be responsible for the immediate collection and disposal of any visible rodent remains found on streets or sidewalks within the project area.
 5. It is anticipated that public complaints will be addressed to the Commissioner. The Contractor, where directed by the Commissioner, shall take appropriate actions, like baiting, trapping, proofing, etc., to remedy the source of 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.
 6. Emergency service during the regular workday hours (Monday through Friday) shall be rendered within 24 hours, if requested by the Commissioner, at no additional cost to the City.



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

F. EDUCATION & NOTICES:

1. The Contractor shall post notices on all Construction Bulletin Boards advising workers, employees, and residents to call the Engineer's Field Office to report any infestation or outbreak of rodents, rats, mice, water beetles, roaches and fleas within the project area. 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.
2. Prior to application of any chemicals, the Contractor shall furnish to the Commissioner copies or sample labels for each pesticide, antidote information, and Material Data Safety Sheets (MSDS) for each chemical used.

G. RECORDS

1. The Contractor shall keep a record of all rodent and waterbug infestation surveys conducted by him/her and make available, upon request, to the Commissioner. The findings of each survey shall include, but not be limited to, recommended Integrated Pest Management (IPM) techniques, like baiting, trapping, proofing, etc., proposed for rodent and waterbug pest control.
2. The Contractor shall maintain records of all locations baited along with the type and quantity of rodenticide and insecticide bait used.

3.15 PLANT PEST CONTROL REQUIREMENTS and TREE PROTECTION REQUIREMENTS:

- A. Plant Pest Control Requirements: The Contractor and its subcontractors, including the Certified Arborist described below, shall comply with all Federal and New York State laws and regulations concerning Asian Longhorned Beetle (ALB) management, including protocols for ALB eradication and containment promulgated by the New York State Department of Agriculture and Markets (NYSDAM). The Contractor is referred to: (1) Part 139 of Title 1 NYCRR, Agriculture and Markets Law, Sections 18, 164 and 167, as amended, and (2) State Administrative Procedure Act, Section 202, as amended.
1. All tree work performed within the quarantine areas must be performed by New York State Department of Agriculture and Markets (NYSDAM) certified entities. Transportation of all host material, living, dead, cut or fallen, inclusive of nursery stock, logs, green lumber, stumps, roots, branches and debris of a half inch or more in diameter from the quarantine areas is prohibited unless the Contractor or its sub-contractor performing tree work has entered into a compliance agreement with NYSDAM. The terms of said compliance agreement shall be strictly complied with. Any host material so removed shall be delivered to a facility approved by NYSDAM. For the purpose of this contract host material shall be ALL species of trees.
 2. Any host material that is infested with the Asian Longhorned Beetle must be immediately reported to NYSDAM for inspection and subsequent removal by either State or City contracts, at no cost to the Contractor.
 3. Prior to commencement of tree work, the Contractor shall submit to the Commissioner a copy of a valid Asian Longhorned Beetle compliance agreement entered into with NYSDAM and the Contractor or its sub-contractor performing tree work. If any host material is transported from the quarantine area the Contractor shall immediately provide the Commissioner with a copy of the New York State 'Statement of Origin and Disposition' and a copy of the receipt issued by the NYSDAM approved facility to which the host materials are transported.
 4. Quarantine areas, for the purpose of this contract shall be defined as all five boroughs of the City of New York. In addition, prior to the start of any tree work, the Contractor shall contact the



NYC Department of Parks & Recreation's Director of Landscape Management at (718) 699-6724, to determine the limits of any additional quarantine areas that may be in effect at the time when tree work is to be performed. The quarantine area may be expanded by Federal and State authorities at any time and the Contractor is required to abide by any revisions to the quarantine legislation while working on this contract. For further information please contact: NYSDAM (631) 288-1751.

- B. Tree Protection Requirements: The Contractor shall retain a Certified Arborist, as defined by New York City Department of Parks and Recreation (NYCDPR) regulations, to provide the services described below.
1. Surveys and Reports: The Certified Arborist shall, at the times indicated below, conduct a survey and prepare a plant material assessment report which includes: (1) identification, by species and pertinent measurements, of all plant material located on the project site, or in proximity to the project site, as described below, including all trees, significant shrubs and/or planting masses; (2) identification and plan for the containment of plant pests and pathogens, including the ALB, as described in paragraph A above; (3) evaluation of the general health and condition of any infected plant material.
 2. Frequency of Reports: The Certified Arborist shall conduct a survey and provide a plant material assessment report at two (2) points in time: (1) prior to the commencement of construction work; and (2) at the time of substantial completion. In addition, for projects exceeding 24 months in duration, the Certified Arborist shall conduct a survey and prepare a report at the midpoint of construction. Copies of each plant material assessment report shall be submitted to the Resident Engineer within two (2) weeks of the survey.
 3. Proximity to Project Site: Off-site trees, significant shrubs and/or planting masses shall be considered to be located in proximity to the project site under the circumstances described below.
 - a. The tree trunk, significant shrub, or primary cluster of stems in a planting mass is within 50 (fifty) feet of the project's Contract Limit Lines (CLLs) or Property Lines (PLs).
 - b. Any part of the tree or shrub stands within 50 (fifty) feet of: (a) a path for site access for vehicles and/or construction equipment; or (b) scaffolding to be erected for construction activity, including façade remediation projects.
 - c. The Certified Arborist determines that the critical root zone (CRZ) of an off-site tree, significant shrub, or primary cluster of stems in a planting mass extends into the project site, whether or not that plant material is located within the 50-foot inclusionary perimeter as outlined above.
 4. Tree Protection Plan: The Certified Arborist shall prepare, and the Contractor shall implement, a Tree Protection Plan, for all trees that may be affected by any construction work, excavation or demolition activities, including without limitation, (1) on-site trees, (2) street trees, as defined below, (3) trees under NYCDPR jurisdiction as determined by the Department of Transportation, and (4) all trees that are located in proximity to the project site, as defined above. The Tree Protection Plan shall comply with the NYC DPR rules, regulations and specifications. The Contractor is referred to Chapter 5 of Title 56 of the Official Compilation of the Rules of the City of New York. Copies of the Tree Protection Plan shall be submitted to the Resident Engineer prior to the commencement of construction. Implementation of the Tree Protection Plan for street trees and trees under NYCDPR jurisdiction shall be in addition to any tree protection requirements specified or required for the project site. For the purpose of this article, a "street tree" means the following: (1) a tree that stands in a sidewalk, whether paved or unpaved, between the curb lines or lateral lines of a roadway and the adjacent property lines



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

of the project site, or (2) a tree that stands in a sidewalk and is located within 50 feet of the intersection of the project's site's property line with the street frontage property line.

- C. No Separate Payment. No separate payment shall be made for compliance with Plant Pest Control Requirements or Tree Protection Requirements. The cost of compliance with Plant Pest Control Requirements and Tree Protection Requirements shall be deemed included in the Contractor's bid for the Project.

3.16 PROJECT IDENTIFICATION SIGNAGE:

- A. The Contractor shall provide, install and maintain Project identification and other signs where indicated to inform public and individuals seeking entrance to the Project.
- B. In order to properly convey notice to persons entering upon a City construction site, the Contractor shall furnish and install a sign at the entrance (gates) as follows:

NO TRESPASSING

AUTHORIZED PERSONNEL ONLY

- C. If no construction fence exists at the site, this notice shall be conveyed by incorporating the above language into safety materials (barriers, tape, and signs).
- D. Provide temporary, directional signs for construction personnel and visitors.
- E. Maintain and touch up signs so that they are legible at all times.

3.17 PROJECT CONSTRUCTION SIGN AND RENDERING:

- A. **PROJECT SIGN:**
- 1 Responsibility: The Contractor shall produce and install one (1) project sign which shall be posted and maintained upon the site of the project at a place and in a position directed by the Commissioner. The Contractor shall protect the sign from damage during the continuance of work under the Contract and shall do all patching of lettering, painting and bracing thereof necessary to maintain the sign in first class condition and in proper position. Prior to fabrication, the Contractor shall submit an 8-1/2" x 11" color match print proof from the sign manufacturer of the completed sign for approval by the Commissioner.
 - 2 Sign Quality: The Contractor shall provide all materials required for the production of the sign as specified herein. Workmanship shall be of the best quality, free from defects and shall be produced in a timely manner.
 - 3 Schedule: Upon project mobilization, the Contractor shall commence production and installation of the sign.
 - 4 Removal: At the completion of all work under the Contract, the Contractor shall remove and dispose of the project sign away from the site.
 - 5 Sign construction:
 - a. Frame: The frame shall be from quality dressed 2"x2" pine, fire retardant, pressure treated lumber, that surrounds the inside back edge of the sign. The sign shall have one (1) intermediate vertical and two (2) diagonal supports, glued and screwed for rigidity. Frame shall be painted white with two (2) coats of exterior enamel paint, prior to mounting of sign panel.
 - b. Edging: U-shaped, 22 gauge aluminum edging, with a white enameled finish to match sign



- background, shall run around entire edging of sign panel and frame. Corners shall be mitered for a tight fit. Channel dimensions shall be 1" inch (overlap to sign panel face) x 1 3/4" (or as required across frame depth) x 1" (back overlap).
- c. Sign Panel: 4' x 8' panel shall be constructed in one (1) piece of 14 gauge (.0785") 6061-T6 aluminum. This panel shall be pre-finished both sides with a glossy white baked-on enamel finish and be flush with edge of 2" x 2" wood frame. Samples must be submitted for approval.
 - d. Fastening: Fasten sign panel to wood frame using cadmium plated no. 8 sheet metal screws at 1/2" below edge of panel and 8" on center. The U-shaped aluminum channel shall be applied over the wood frame edge and fastened with cadmium plated no. 8 sheet metal screws at 12" on center around the entire perimeter.
- 6 Sign Graphics:
- a. A digital file of the project sign will be provided to the Contractor by the Commissioner's representative for printing. The Commissioner's representative shall insert the project name and names and titles of personnel (3 or more) and any other required information associated with the project. All signs may include a second panel for a project rendering as described in Sub-Section 3.17.B herein.
 - b. The digital file shall be reproduced at the Sign Panel size of 4' x 8' on 3M High Performance Vinyl or approved equal. The 3M High Performance Vinyl or equivalent shall be guaranteed for nine (9) years. Guarantee must cover fading, peeling, chipping or cracking. The sign manufacturer is required to maintain all specified Pantone Matching System (PMS) type and other composition elements represented in the digital file of the project sign.

REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 3.17 B

B. PROJECT RENDERING:

1. Responsibility: In addition to the Project Sign, the Contractor shall furnish and install one (1) sign showing a rendering of the project. A digital file of the project rendering will be provided to the Contractor by the Commissioner's representative. From an approved image file provided by DDC, the Project Rendering is to be sized, printed, and mounted in an identical manner as described in Sub-Section 3.17.A above for the Project Sign. A color match print proof from the sign manufacturer of the Rendering Sign printed from the supplied file is to be submitted to DDC for approval before fabrication. The Rendering Sign is to be posted at the same height as the Project Sign. Where possible, the Rendering Sign shall be mounted with a perfect match of the short sides of the rectangle so that the Rendering Sign and the Project Sign together will create one long rectangle.
2. Removal: At the completion of all work under the Contract, the Contractor shall remove and dispose of the project rendering away from the site.

REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 3.18

3.18 SECURITY GUARDS/FIRE GUARDS ON SITE:

A. SECURITY GUARDS (WATCHMEN):

1. The Contractor shall provide competent Security Guard Service on the site, beginning on the date on which the Contractor commences actual construction work, or on such earlier date on which there is activity at the site related to the work, including without limitation, delivery of



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

materials or construction set-up. The Contractor shall continue to provide such Security Guard Service until the date on which it completes all required work at the site, including all punch list work, as certified in writing by the Resident Engineer, or earlier if so directed in writing by the Commissioner. Throughout the specified time period, there shall be no less than one (1) Security Guard on duty every day, including Saturdays, Sunday and Holidays, 24 hours a day, except between the hours of 8:00 A.M. and 4:00 P.M. on any day which is a regular working day for a majority of the trade subcontractors. This exception during the working day shall not apply after the finishing painting of the plaster work is commenced; thereafter, not less than one (1) Security Guard shall be on duty continuously, 24 hours a day.

2. Every Security Guard shall be required to hold a "Certificate of Fitness" issued by the Fire Department. Every Security Guard shall, during his/her tour of duty, perform the duties of Fire Guard in addition to his/her security obligations.
 3. Should the Commissioner find that any Security Guard is unsatisfactory; such guard shall be replaced by the Contractor upon the written demand of the Commissioner.
 4. Each Security Guard furnished by the Contractor shall be instructed by the Contractor to include in his/her duties the entire construction site including the Field Office, temporary structures, and equipment, materials, etc.
 5. Should the Contractor or any other subcontractor consider the security requirements outlined above inadequate, the Contractor shall provide such additional security as it thinks necessary, after obtaining the written consent of the Commissioner. The additional cost of such approved increased protection will be paid by the Contractor.
 6. Nothing contained in this Sub-Section shall diminish in any way the responsibility of the Contractor and each subcontractor for its own work, materials, tools, equipment, nor for any of the other risks and obligations outlined hereinbefore in this Article.
- B. COSTS - The Contractor shall employ Security Guards/Fire Guards throughout the specified time period, except as otherwise modified by the detailed Specifications and as approved by the Commissioner, for the purpose of safeguarding and protecting the site. All costs for Security Guards/Fire Guards shall be borne by the Contractor.
- C. RESPONSIBILITY - The Contractor and its subcontractors will be responsible for safeguarding and protecting their own work, materials, tools and equipment.

3.19 SAFETY:

- A. The Contractor, in compliance with requirements of Section 01 35 26, SAFETY REQUIREMENTS PROCEDURES, shall provide and maintain all necessary temporary closures, guard rails, and barricades to adequately protect all workers and the public from possible injury. Any removal of these items, during the progress of the work, shall be replaced by the Contractor at no additional cost to the City.

END OF SECTION 01 50 00



NEW YORK CITY DEPARTMENT OF
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Division 01 – DDC STANDARD GENERAL CONDITION
SINGLE CONTRACT PROJECTS
Issue Date - June 01, 2013

No Text

TEMPORARY FACILITIES, SERVICES AND CONTROLS
01 50 00 -28



NEW YORK CITY DEPARTMENT OF
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Division 01 – DDC STANDARD GENERAL CONDITION
SINGLE CONTRACT PROJECTS
Issue Date - June 01, 2013

SECTION 01 54 11 TEMPORARY ELEVATORS AND HOISTS

PART I – GENERAL

1.1 RELATED DOCUMENTS:

- A. The following documents apply to all required work for the Project: (1) the Contract Drawings, (2) the Specifications, (3) the General Conditions, (4) the Addendum, and (5) the Contract [City of New York Standard Construction Contract].

1.2 SUMMARY:

- A. This section includes the following:
1. Temporary Use, Operation and Maintenance of Elevators during Construction
 - a. For New Buildings up to 15 Stories
 - b. For New Buildings over 15 Stories
 - c. For Existing Buildings
 2. Temporary Construction Hoists and Hoist ways (For Material and Personnel)

1.3 RELATED SECTIONS: include without limitation the following:

- A. Section 01 10 00 SUMMARY
B. Section 01 42 00 REFERENCES
C. Section 01 50 00 TEMPORARY FACILITIES AND CONTROLS
D. Section 01 54 23 TEMPORARY SCAFFOLDS AND SWING STAGING
E. Section 01 77 00 CLOSE OUT PROCEDURES

PART II – PRODUCTS (Not Used)

PART III – EXECUTION

REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 3.1

3.1 TEMPORARY USE, OPERATION AND MAINTENANCE OF ELEVATORS DURING CONSTRUCTION FOR NEW BUILDINGS UP TO AND INCLUDING 15 STORIES:

- A. **INSTALLATION:** The Contractor shall install, complete, operate, and maintain in good working order, as indicated herein, one (1) selected main elevator for the transport of employees of the Contractor and/or its subcontractors, and representatives of the DDC and other Governmental Agencies having jurisdiction of work at the project. The Contractor shall furnish, install, and maintain such elevator in good working order, including all necessary hoisting ropes, governor cables, traveling conductor cables, operating devices, temporary hand reset target annunciators, temporary signal devices, and all other permanent or temporary parts. The installation, operation and maintenance of the temporary elevator and all equipment and/or parts utilized in connection therewith shall be in accordance with the rules and regulations of all agencies and/or entities having jurisdiction over elevators in temporary use.
- B. **RESPONSIBILITY:** The Contractor shall be responsible for any injury to persons or damage to property arising out of the temporary elevator and all equipment and/or parts utilized in connection therewith.



- C. **COSTS:** The Contractor shall be responsible for all costs in connection with the temporary elevator, including without limitation: (1) installing and operating the temporary elevator, (2) maintaining the temporary elevator in clean, proper operating condition, including the cost of lubricants and/or parts for such maintenance, (3) performing all work in pits, shaft ways and machine rooms necessary for the operation of the temporary elevator, (4) replacing the temporary elevator or any equipment or parts utilized in connection therewith, if required, due to damage, destruction or excessive wear or corrosion, except for the replacement of hoisting ropes as set forth below, (5) performing all required electrical work in connection with the temporary elevator, (6) providing all electric power required to operate the temporary elevator, (7) providing all necessary conduit and wiring connections for the proper operation and signaling of the temporary elevator, and (8) providing all labor for the operation and maintenance of the temporary elevator, including on an overtime basis if necessary. The total Contract Price shall include all costs in connection with the temporary elevator, including without limitation, the costs specified herein.
- D. **COMMENCEMENT OF SERVICE:** The Contractor shall begin to provide temporary elevator service using the selected main passenger elevator no later than eight (8) weeks (40 working days) after the machine room roof slab, or that portion of it surrounding the elevator shaft, has been placed. No later than three (3) weeks (15 working days) after the machine room roof slab, or that portion of it surrounding the elevator shaft, has been placed the following work shall have been completed:
1. The shaft shall have been completely enclosed by either the permanent or a temporary enclosure meeting the requirements of the law.
 2. The machine room shall have been made completely watertight either by permanent or temporary construction. Beams or other devices, either permanent or temporary shall be provided which will enable the safe and practicable hoisting of the elevator machinery for installation.
 3. There shall have been installed on all floors at the shaft way entrances to the elevator, solid substantial frames and either sliding or swing doors with substantial hardware and door locks and any necessary approved wire mesh barricades for adjacent shaft ways.
 4. There shall have been furnished and installed solid substantial enclosures at front, back, sides and top of car platform enclosure, with emergency exit at top of car, excepting that the portion of the front at the elevator entrance shall have been provided with a substantial temporary door or gate.
- E. **ELECTRICAL INSTALLATION:** The Contractor, not later than 20 calendar days after the machine room roof slab or that portion of its surrounding the elevator has been placed, shall have furnished and installed temporary or permanent power and light feeders as required for the elevator used for temporary service and shall have connected such feeders to the terminals on the starter panels or controllers in the machine room to the low voltage transformers and car light outlets in the center of shaft way and for the car control and signal traveling cables. The Contractor shall make all these required connections as soon as the equipment is declared ready for such connections by the Resident Engineer.
- F. **REMOVAL:** When elevators for permanent use have been installed and are in condition for service, and when directed by the Commissioner, the Contractor shall remove the temporary enclosures and all temporary elevator equipment and promptly proceed with the installation of the permanent equipment as required under the Contract.
- G. **INSPECTION:** Before temporary elevator equipment is removed, a joint inspection of the equipment shall be made by the Contractor and the Commissioner to determine the condition of this equipment upon the discontinuation of its temporary use. If this inspection deems it necessary, the Contractor shall furnish and install new governor and compensating ropes, new traveling cables and new controller parts, etc. The car and counterweight safeties shall be thoroughly cleaned of all dirt and all foreign matter, then properly lubricated and placed in good operating condition to the satisfaction of the Commissioner. If it is determined and ordered by the Commissioner that new hoist ropes are required, such ropes shall be installed and payment therefore will be made in accordance with Article 26 of the Contract.



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

- H. **REPLACEMENT:** The Contractor shall furnish and install new equipment or parts for any equipment or parts of the temporary elevator installation that have been damaged, destroyed, or that indicate excessive wear or corrosion, excepting the replacement of hoisting ropes. All shaft ways, pits, motor rooms and sheave spaces used for temporary operation of elevators shall be thoroughly cleaned. Where lubricated rails are used they shall be washed down. If roller guides are used, all rust, dirt, etc., must be moved from the rails. The full cost of parts replacement, cleaning, etc., shall be borne by the Contractor except for the replacement of hoisting ropes.
- I. **LIMITATIONS ON USE:** The temporary elevator shall not be used during its operation for the hoisting of materials or the removal of rubbish, but shall be limited only to the transportation of employees of the Contractor and/or its subcontractors, and representatives of DDC and other Governmental Agencies having jurisdiction of work at the project. However, the Resident Engineer may grant special permission at specified times to the Contractor and/or its subcontractors to hoist materials, which in the Resident Engineer's opinion will not overload or damage the elevator installation, but only after such times as all plastering has been completed from the second floor up. In the event of any damage to the temporary elevator, the Contractor shall notify the Resident Engineer within 24 hours after such damage has occurred. As indicated above, the Contractor shall be responsible for the replacement of any equipment or parts of the temporary elevator that have been damaged.
- J. **LIQUIDATED DAMAGES:** The Contractor will be charged at the rate of \$100 per day for each day it fails to provide the temporary elevator service described in this section beginning with the 41st working day after the machine room roof slab, or that portion of it surrounding the elevator shaft, has been placed and stripped. This charge will be deducted from any amount due and owing to the Contractor.

REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 3.2

3.2 TEMPORARY USE, OPERATION AND MAINTENANCE OF ELEVATORS DURING CONSTRUCTION FOR NEW BUILDING OVER 15 STORIES:

- A. **INSTALLATION:** The Contractor shall install, complete, operate, and maintain in good working order, as indicated herein, two (2) selected main elevators for the transport of employees of the Contractor and/or its subcontractors, and representatives of the DDC and other Governmental Agencies having jurisdiction of work at the project. The Contractor shall furnish, install, and maintain such elevators in good working order, including all necessary hoisting ropes, governor cables, traveling conductor cables, operating devices, temporary hand reset target annunciators, temporary signal devices, and all other permanent or temporary parts. The installation, operation and maintenance of the temporary elevators and all equipment and/or parts utilized in connection therewith shall be in accordance with the rules and regulations of all agencies and/or entities having jurisdiction over elevators in temporary use. The two (2) elevators shall not be operated simultaneously.
- B. **RESPONSIBILITY:** The Contractor shall be responsible for any injury to persons or damage to property arising out of the temporary elevators and all equipment and/or parts utilized in connection therewith.
- C. **COSTS:** The Contractor shall be responsible for all costs in connection with the temporary elevators, including without limitation: (1) installing and operating the temporary elevators, (2) maintaining the temporary elevators in clean, proper operating condition, including the cost of lubricants and/or parts for such maintenance, (3) performing all work in pits, shaft ways and machine rooms necessary for the operation of the temporary elevators, (4) replacing the temporary elevators or any equipment or parts utilized in connection therewith, if required due to damage, destruction or excessive wear or corrosion, except for the replacement of hoisting ropes as set forth below, (5) performing all required electrical work in connection with the temporary elevators, (6) providing all electric power required to operate the temporary elevators, (7) providing all necessary conduit and wiring connections for the proper operation and signaling of the temporary elevators, and (8) providing all labor for the operation and maintenance of the temporary elevators, including on an overtime basis if necessary. The total Contract Price shall



include all costs in connection with the temporary elevators, including without limitation, the costs specified herein.

- D. **LOW RISE ELEVATOR:** The Contractor shall begin to provide temporary elevator service using one (1) selected main passenger elevator no later than six (6) weeks (30 working days) after the 12th Floor slab, or that portion of it surrounding the elevator shaft, has been placed and stripped. No later than one (1) week, five (5) working days, after the 12th Floor slab, or that portion of it surrounding the elevator shaft, has been placed and stripped the following work shall have been completed:
1. The shaft shall have been completely enclosed up to the 12th Floor by either the permanent or a temporary enclosure meeting the requirements of the law.
 2. A temporary machine room enclosure shall have been provided at the 11th Floor and shall have been made completely watertight either by permanent or temporary construction. Beams or other devices, either permanent or temporary, shall be provided which will enable the safe and practicable hoisting of the elevator machinery for installation.
 3. There shall have been installed on all floors up to and including the 9th Floor at the shaft entrances to the elevator, solid substantial wood frames and either sliding or swing doors with substantial hardware and door locks, also any necessary approved wire mesh barricades for adjacent shaft ways.
 4. There shall have been furnished and installed solid substantial enclosures at front, back, sides and top of car platform enclosure, with an emergency exit at top of car, excepting that the portion of the front at the elevator entrance shall have been provided with a substantial temporary door or gate.
- E. **ELECTRICAL INSTALLATION:** The Contractor not later than 10 calendar days after the 12th Floor slab or that portion of it surrounding the elevator, has been poured and stripped, shall have furnished and installed temporary or permanent power and light feeders as required for the elevator used for temporary service and shall have connected such feeders to the terminals on the starter panels or controllers in the temporary machine room, to the low voltage transformers and car light outlets in the center of the shaftway and for the car control and signal traveling cables. The Contractor shall make all these required connections as soon as the Equipment is declared ready for such connections by the Resident Engineer.
- F. **HIGH RISE ELEVATOR:** The Contractor shall begin to provide temporary elevator service to all floors, using a selected main passenger elevator, no later than eight (8) weeks (40 working days) after the machine room roof slab, or that portion of it surrounding the elevator shaft, has been placed. No later than three (3) weeks (15 working days) after the machine room roof slab, or that portion of it surrounding the elevator shaft, has been placed, the following work shall have been completed:
1. The shaft shall have been completely enclosed by either the permanent or temporary enclosure, meeting the requirements of the law.
 2. The machine room shall have been made completely watertight either by permanent or temporary construction. Beams or other devices, either permanent or temporary shall be provided which will enable the safe and practicable hoisting of the elevator machinery for installation.
 3. There shall have been installed on all floors at the shaft way entrances to the elevator, solid substantial frames and either sliding or swing doors with substantial hardware and door locks, also any necessary approved wire mesh barricades for adjacent shaft ways.
 4. There shall have been furnished and installed, solid substantial enclosures at front, back, sides and top of car platform enclosure, with an emergency exit at top of car, excepting that the portion of the front at the elevator entrance shall have been provided with a substantial temporary door or gate.
- G. **ELECTRICAL INSTALLATION:** The Contractor, not later than 20 calendar days after the machine room slab or that portion of it surrounding the elevator shaft has been placed, shall have furnished and installed temporary or permanent power and light feeders as required for the high rise elevator to be used for



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

- temporary service and shall have connected such feeders to the terminals on the motor-generator starter panels or controllers in the machine room, to the signal circuits low voltage transformers for the annunciators and car light outlets in the center of shaft way. The Contractor shall make all these required connections as soon as the equipment is declared ready for such connections by the Resident Engineer.
- H. When the high rise elevator is completed and ready for temporary operation, the low rise temporary elevator shall be shut down.
- I. REMOVAL: When one (1) or more elevators for permanent use have been installed and are in condition for service, and when directed by the Commissioner, the Contractor shall remove the temporary enclosures and all temporary elevator equipment, and promptly proceed with the installation of the permanent equipment as required under the Contract.
- J. INSPECTION: Before temporary elevator equipment is removed, a joint inspection of the equipment shall be made by the Contractor and the Commissioner to determine the condition of this equipment upon the discontinuation of its temporary use. If this inspection determines it necessary, the Contractor shall furnish and install new governor and compensating ropes, new traveling cables, new controller parts, etc. The car and counterweight safeties shall be thoroughly cleaned of all dirt and all foreign matter, then properly lubricated and placed in good operating condition to the satisfaction of the Commissioner. If it is determined and ordered by the Commissioner that new hoist ropes are required, such ropes shall be installed and payment therefore will be made in accordance with Article 26 of the Contract.
- K. REPLACEMENT: The Contractor shall furnish and install new equipment or parts for any equipment or parts of the temporary elevator installations that have been damaged, destroyed, or that indicate excessive wear or corrosion, excepting the replacement of hoisting ropes. All shaft ways, pits, motor rooms and sheaves spaces used for temporary operation of elevators shall be thoroughly cleaned down. Where lubricated rails are used they shall be washed down, if roller guides are used, all rust, dirt, etc., must be removed from the rails. The full cost of parts replacement cleaning, etc., shall be borne by the Contractor except for the replacement of hoisting ropes.
- L. LIMITATIONS ON USE: The temporary elevators shall not be used during their operation for the hoisting of materials or the removal of rubbish, but shall be limited only to the transportation of employees of the Contractor and/or its subcontractors, and representatives of DDC and other Governmental Agencies having jurisdiction of work at the project. However, the Resident Engineer may grant special permission at specified times to the Contractor and/or its subcontractors to hoist materials, which in the Resident Engineer's opinion will not overload or damage the elevator installation, but only after such times as all plastering has been completed from the second floor up. In the event of any damage to the temporary elevator, the Contractor shall notify the Resident Engineer within 24 hours after such damage has occurred. As indicated above, the Contractor shall be responsible for the replacement of any equipment or parts of the temporary elevator that have been damaged.
- M. LIQUIDATED DAMAGES: The Contractor will be charged at the rate of \$100 per day for each day it fails to provide the temporary elevator service described in this Section beginning with the 31st working day after the 12th Floor slab, or that portion of the 12th Floor slab surrounding the elevator shaft, has been placed and stripped. This charge will be deducted from any amount due and owing to the Contractor.

REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 3.3

3.3 TEMPORARY USE, OPERATION AND MAINTENANCE OF ELEVATORS DURING CONSTRUCTION FOR EXISTING BUILDINGS:

- A. The Contractor may use, at the Commissioner's discretion, one (1) selected elevator in the building for temporary operation by the Contractor for the transportation of employees of the Contractor and/or its subcontractors, and representatives of DDC and other Governmental Agencies having jurisdiction over the work at the Project. The operation of the temporary elevator and all equipment and/or parts utilized in



- connection therewith shall be in accordance with the rules and regulations of all agencies and/or entities having jurisdiction over elevators in temporary use.
- B. **RESPONSIBILITY:** The Contractor shall be responsible for any injury to persons or damage to property arising out of the temporary elevator and all equipment and/or parts utilized in connection therewith.
 - C. **REPLACEMENT:** The Contractor shall furnish and install new equipment or parts for any equipment or parts of the elevator for temporary operation that have been damaged, destroyed, or that indicate excessive wear or corrosion, excepting the replacement of hoisting ropes. All shaft ways, pits, motor rooms and sheave spaces used for temporary operation of elevators shall be thoroughly cleaned down. Where lubricated rails are used they shall be washed down, if roller guides are used, all rust, dirt, etc., must be moved from the rails. The full cost of parts replacement, cleaning, etc., shall be borne by the Contractor except for the replacement of hoisting ropes. If it is determined and ordered by the Commissioner that new hoist ropes are required, such ropes shall be installed and payment therefore will be made in accordance with Article 26 of the Contract.
 - D. **LIMITATIONS ON USE:** The temporary elevator shall not be used during its operation for the hoisting of materials or the removal of rubbish, but shall be limited only to the transportation of employees of the Contractor and/or its subcontractors, and representatives of DDC and other Governmental Agencies having jurisdiction of work at the project. However, the Resident Engineer may grant special permission at specified times to the Contractor and/or its subcontractors to hoist materials, which in the Resident Engineer's opinion will not overload or damage the elevator installation. In the event of any damage to the temporary elevator, the Contractor shall notify the Resident Engineer within 24 hours after such damage has occurred. As indicated above, the Contractor shall be responsible for the replacement of any equipment or parts of the temporary elevator that have been damaged.
 - E. **LIQUIDATED DAMAGES:** The Contractor will be charged at the rate of \$100 per day for each day it fails to provide elevator services described in this section beginning with 15 consecutive calendar days from Notice to Proceed. This charge will be deducted from any amount due and owing to the Contractor.

3.4 TEMPORARY HOISTS AND HOISTWAYS (FOR MATERIAL AND PERSONNEL):

- A. **RESPONSIBILITY:** The Contractor shall provide adequate numbers of material hoists for the most expeditious performance of all parts of the work including the work of all its subcontractors.
- B. **LOCATIONS:** No hoists shall be constructed at such locations as will interfere with, or affect the construction of, floor arches, or the work of subcontractors. The hoists may be located at the exterior sides of the structure or in the courtyard and extend upward adjacent to the line of window openings. The hoists shall be located a sufficient distance from the exterior walls and be so protected as to prevent any of the permanent work from being damaged, stained or marred.
- C. **ELEVATOR SHAFT:** Wherever possible, one or more of the permanent elevator shafts may be used as temporary hoist ways, providing such use complies with the requirements of the Building Code of the City of New York and has been approved by the Commissioner, and providing further it entails no interference with the progress of the work.
- D. **PROTECTION FOR INTERIOR HOISTS:** All interior material hoist ways shall be enclosed on each floor and shall be adequately protected with appropriate safety guards. In no event shall the protection be less than that required by law.

END OF SECTION 01 54 11



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

SECTION 01 54 23
TEMPORARY SCAFFOLDING AND PLATFORMS

PART I – GENERAL

1.1 RELATED DOCUMENTS:

- A. The following documents apply to all required work for the Project: (1) the Contract Drawings, (2) the Specifications, (3) the General Conditions, (4) the Addendum, and (5) the Contract [City of New York Standard Construction Contract].
- B. Section 01 35 26: Safety Requirements Procedures.
- C. The Contractor shall comply with the requirements of "The City of New York Department of Design and Construction Safety Requirements". This document is included in the Information for Bidders.

1.2 SUMMARY:

- A. This Section includes administrative and general procedural requirements for Temporary Scaffolding and Platforms, including:
 - 1. Conformance
 - 2. Responsibility
 - 3. Jobsite Documentation and Submittals
 - 4. Inspections
- B. This Section governs ALL scaffold used on DDC project sites including, but not limited to, Suspended Scaffold, Supported Scaffold and Sidewalk Sheds.

1.3 CONFORMANCE:

- A. Unless otherwise indicated, the Contractor is responsible for providing, erecting, installing and maintaining all temporary scaffolding and platforms which shall comply with requirements of Chapter 33 (Safeguards During Construction or Demolition) of the NYC Building Code, NYC Local Law 52 of 2005, OSHA Construction Standard 1926 Subpart L, and furnishing the items and personnel set forth in this section.

1.4 RESPONSIBILITY:

- A. Jobsite Safety Coordinator: The Contractor shall designate and employ a Jobsite Safety Coordinator, who shall be a competent person, who shall have a daily presence on the project site during scaffold use. This designee must possess and maintain a valid New York City Department of Buildings supported scaffold certificate of completion. An alternate shall also be designated, in the event that the Jobsite Safety Coordinator is absent. The Jobsite Safety Coordinator shall:
 - 1. Verify completeness of documentation and submittals (as described below).
 - 2. Verify that inspections are performed, including pull tests (see below), reports are filed and reported deficiencies are corrected.
 - 3. Monitor trades using scaffold.
 - 4. Limit access to scaffold areas that are tagged for non-use.
 - 5. Inform trades of scaffold load limitations.
 - 6. Monitor loading of decks.
 - 7. Verify that any ties that are temporarily removed are properly restored in the same shift.
 - 8. Verify that outriggers and planks that are moved are properly set up and secured.
 - 9. Verify that all scaffold decks in use have proper access/egress.
 - 10. Verify that all open sides of decks in excess of 14 inches have proper guardrails and toe-boards.



11. Notify appropriate parties, including but not limited to the Resident Engineer, site safety coordinator / monitor, site safety consultant, scaffold users, contractor and the scaffold engineer, of misuses, non-conformances, hazards and accidents.
12. Keep a log of significant actions and events connected with the scaffolding.
- B. The Contractor shall be responsible for erecting, maintaining and dismantling the scaffolding and/or sidewalk shed in conformance with requirements of the New York City Building Code, OSHA and the Contract documents, including the specifications. The Contractor shall also be guided by generally accepted standards of scaffold industry practice as promulgated by the Scaffold Industry Association.
- C. The Contractor shall require the subcontractor responsible for erecting the scaffolding to engage a Scaffold Engineer, licensed as a professional engineer by the State of New York. The Scaffold Engineer shall be responsible to ensure the following: (1) that the installation design is in compliance with requirements of the New York City Building Code and OSHA, (2) that the design comports with the capabilities of the components and the characteristics of the site, (3) that scaffold loads on the host building, including netting, have been properly considered, and (4) that the design documents provide accurate information for erectors and users.
- D. Scaffold users are trade contractors assigned to work on the scaffold. Training certificates from a New York City Department of Buildings approved training provider are mandatory. These users have the duty to become familiar with the New York City Building Code and OSHA requirements germane to users, to obey the instructions of the Jobsite Safety Coordinator and to inform the Jobsite Safety Coordinator of known hazards, non-conformances or violations.

1.5 JOBSITE DOCUMENTATION AND SUBMITTALS:

The Contractor shall prepare, obtain and submit the following to the Resident Engineer:

- A. NYC Department of Buildings permit(s) for scaffold and sidewalk sheds (as applicable) including filing applications signed and sealed by a Professional Engineer licensed in the State of New York;
- B. Site logistics plan / site safety plan;
- C. Installation drawing(s), design and product data to be provided for all scaffold(s) and shed(s) must include, at a minimum:
 1. Plan(s);
 2. Elevation(s);
 3. Duty load designation; "standard" (150 psf live load) or "heavy duty" (300 psf live load).
 4. Details including base support, anchors and ties;
 5. Notes and specifications including load limits, number of planked levels, tie spacing, netting, and sequence of installation and removal.
 6. Anchorage into sound material.
 7. Load limits based on pull tests;
 8. Specifications for pull test(s), method, proof load and the number of trials;
 9. Elevations, levels or heights, where anchorage is made into masonry;
 10. Specifications for frames, planks, screw jacks, anchors, and any other ancillary hardware;
 11. Samples for anchors, ties and netting;
 12. Sequence of operations for erection and demolition;
 13. Location plan, heights, widths, "jumps" over doorways and driveways;
 14. Specify size, maximum span and maximum spacing of headers and stringers;
 15. Specify legs, girts, braces, nailing and connections;
 16. All sidewalk sheds shall be designed, engineered, signed and sealed by a Professional Engineer licensed in the State of New York;
 - a. Generic (not job specific) engineering drawings are satisfactory for standard sheds and arrangements.



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

- b. Special engineering is required for custom sheds, site-specific problems or non-standard arrangements.

1.6 INSPECTIONS:

- A. Signed inspection reports shall be issued for each inspection and pull-test below, and shall be logged and maintained on site by the Jobsite Safety Coordinator for the duration of the project.
- B. Pull testing shall be required during design, and during or post erection, where anchorage is made into masonry. The Scaffold Engineer shall specify the test method, proof load and the number of trials.
- C. Sidewalk sheds shall be inspected after initial installation, major modification, or damage and thence every three months. Inspections shall be by a Scaffold Engineer for custom sheds and by a Competent Person employed by the Contractor for standard sheds.
- D. Scaffolds shall be inspected by the Scaffold Engineer during erection, post-erection and prior to use and thence every three months. The Scaffold Engineer shall repeat inspections after major alteration/modification, damage.
- E. A Qualified Person assigned by the Contractor shall inspect the progress of erection and dismantling, and the condition and integrity of the sidewalk sheds after high winds, major storms and at least once per month during usage.
- F. A Qualified Person assigned by the Contractor shall inspect the progress of erection and dismantling at least weekly, and the condition and integrity of the scaffold after high winds, major storms and at least once per month during usage.
- G. Scaffolds and Sidewalk Sheds shall be inspected daily by the Jobsite Safety Coordinator or alternate prior to use by scaffold users. The inspection results must be recorded in the maintenance log, and be available on-site at all times.
- H. At the completion of the project, submit all inspection documents as Miscellaneous Record Documents in accordance with Section 01 78 39, CONTRACT RECORD DOCUMENTS.

1.7 LADDERS AND STAIRS:

- A. The Contractor shall provide and maintain ladders or temporary stairs extending from the street to the first story, and to and from every floor and roof level of the project.

1.8 ACCESS AND EXITS:

- A. The ladders or temporary stairs shall be of acceptable size, number and location, so that proper and convenient access may be had by those required to proceed to and from all parts of the project.

PART II – PRODUCTS (Not Used)

PART III – EXECUTION (Not Used)

END OF SECTION 01 54 23



NEW YORK CITY DEPARTMENT OF
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Division 01 – DDC STANDARD GENERAL CONDITION
SINGLE CONTRACT PROJECTS
Issue Date - June 01, 2013

No Text

TEMPORARY SCAFFOLDING AND PLATFORMS
01 54 23 - 4



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

Division 01 – DDC STANDARD GENERAL CONDITION
SINGLE CONTRACT PROJECTS
Issue Date - June 01, 2013

SECTION 01 73 00 EXECUTION

PART I – GENERAL

1.1 RELATED DOCUMENTS:

- A. The following documents apply to all required work for the Project: (1) the Contract Drawings, (2) the Specifications, (3) the General Conditions, (4) the Addendum, and (5) the Contract [City of New York Standard Construction Contract].

1.2 SUMMARY:

- A. This Section includes general procedural requirements governing execution of the Work including without limitation the following:
1. Delivery of Materials
 2. Contractor's Superintendent
 3. Surveys
 4. Borings
 5. Examination
 6. Environmental Assessment
 7. Preparation
 8. Deferred Construction
 9. Installation
 10. Permits
 11. Transportation
 12. Sleeves and Hangers
 13. Sleeve and Hanger Drawings
 14. Cutting and Patching
 15. Location of Partitions
 16. Furniture and Equipment
 17. Removal of Rubbish and Surplus Material
 18. Cleaning
 19. Security And Protection of Work Site
 20. Maintenance of Site and Adjoining Property
 21. Maintenance of Project Site
 22. Safety Precautions for Control Circuits
 23. Obstructions in Drainage Lines

1.3 RELATED SECTIONS: Include without limitation the following:

- | | | |
|----|------------------|--|
| A. | Section 01 10 00 | SUMMARY |
| B. | Section 01 31 00 | PROJECT MANAGEMENT AND COORDINATION |
| C. | Section 01 33 00 | SUBMITTAL PROCEDURES |
| D. | Section 01 74 19 | CONSTRUCTION WASTE MANAGEMENT & DISPOSAL |
| E. | Section 01 77 00 | CLOSEOUT PROCEDURES |
| F. | Section 01 78 39 | CONTRACT RECORD DOCUMENTS |

EXECUTION
01 73 00 - 1



1.4 DEFINITIONS:

- A. Refer to Article 2 of the Contract for definition of terms, words and expressions used in the General Conditions not otherwise defined herein.
- B. Design Consultant: "Design Consultant" shall mean the entity responsible for providing design services for the Project, including without limitation, preparing the construction documents (drawings and specifications) and providing services in connection with such documents during construction. The entity serving as the "Design Consultant" may be a corporation, firm, partnership, joint venture, individual or combination thereof. Such entity may be either an employee(s) of the City or an entity engaged by the City to provide such services.

1.5 QUALITY ASSURANCE:

- A. Land Surveyor Qualifications: A professional land surveyor who is licensed in the State of New York and who is experienced in providing land-surveying services of the kind indicated.

PART II – PRODUCTS (Not Used)

PART III – EXECUTION

3.1 DELIVERY OF MATERIALS:

- A. Material Orders: The Contractor shall furnish to the Commissioner a copy of each material order, indicating date of order and quantity of material, and shall also notify the Commissioner when materials have been delivered to the site and in what quantities.
- B. Ample Quantities: The Contractor shall deliver materials in ample quantities to insure the most prompt and uninterrupted progress of the work so as to complete the work within the Contract time.
- C. Containers: The manufacturer's containers shall be delivered with unbroken seals and shall bear proper labels.
- D. Deliveries: The Contractor shall coordinate deliveries in order to avoid delaying or impeding the progress of the work.
- E. Handling: The Contractor shall provide equipment and personnel to handle products by methods to prevent soiling or damage.
 - 1. Promptly inspect shipments to assure products comply with requirements, quantities are correct, and products are undamaged.
 - 2. Promptly return damaged shipments or incorrect orders to manufacturer.
 - 3. For materials or equipment to be reused or salvaged, use special care in removal, storage and reinstallation to insure proper function in completed work.
- F. Storage: Store products in accordance with provisions of Article 3.1, and periodically inspect to assure that stored products are undamaged and are maintained under required conditions.
- G. Stacking: All materials shall be properly stacked in convenient places adjacent to the site, or where directed, and protected in a satisfactory manner. Stacked materials shall be so arranged as to not interfere with visibility of traffic control devices.
- H. Overloading: If authority is given to store materials in any part of the project area, they shall be so stored as to cause no overloading.



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

- I. No Interference: If it becomes necessary to remove and restack materials to avoid impeding the progress of any part of the work or interfering with the work to be done by any trade subcontractor, the Contractor shall remove and restack such materials at no additional cost to the City.

3.2 CONTRACTOR'S CONSTRUCTION SUPERINTENDENT:

- A. Contractor's Construction Superintendent: The Contractor shall devote its time and personal attention to the work and shall employ and retain at the project site, from the commencement until the entire completion of the work, a Contractor's Construction Superintendent. The Contractor's Construction Superintendent shall be registered with the New York City Department of Buildings in compliance with the Construction Superintendent Rule of the City of New York and shall be competent and capable of maintaining proper supervision and care of the work and shall be acceptable to the Commissioner. The Construction Superintendent shall, in the absence of the Contractor, and irrespective of any superintendent or foreman employed by any subcontractor, shall see that the instructions of the Commissioner are carried out.
- B. Replacement: The Contractor's Construction Superintendent on the job shall not be changed or removed without the consent of the Commissioner.

REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 3.3

3.3 SURVEYS:

- A. Line and Grade: The City will establish a baseline and bench mark near the site of the work for use of the Contractor in connection with the performance of the work.
- B. Responsibility: The Contractor shall establish all other lines and elevations required for its work and shall be solely responsible for the accuracy thereof.
- C. Safeguard All Points: The Contractor shall safeguard all points, stakes, grade marks and bench marks made or established by the Contractor on the work, shall re-establish same if disturbed and bear the entire expense of rectifying the work improperly installed due to not maintaining, not protecting or removing without authorization such established points, stakes, or marks.
- D. City Monuments and Markers: No work shall be performed near City monuments or marks so as to disturb them until the said monuments or marks have been referenced or reset or otherwise disposed of by the relevant Agency or party who installed them.
- E. Foundations: The Contractor shall furnish certification from a licensed Surveyor that all portions of the foundation work are located in accordance with the Contract Drawings and at the elevations required thereby. This certification shall show the actual locations and the actual elevations of all the work in relation to the locations and elevations shown on the Contract Drawings, including but not restricted to the following:
1. The locations and elevations of all piles, if any.
 2. Elevations of tops of all spread footings, tops of pile caps, and tops of all foundation walls, elevator pit walls and ramp walls.
 3. Location of all footing centers and pier centers including those for exterior wall columns.
 4. Location of all foundation walls including wall columns, elevator pit walls and ramp walls.
- F. Wall Lines: After the first courses of masonry or stone have been laid, the Contractor shall establish the permanent lines of exterior walls. The Contractor shall furnish promptly, certification from a licensed Surveyor, in the form of signed original drawings showing the exact location of such wall lines, of all portions of all structures. Except at its own risk, the Contractor shall not proceed further with the erection of walls until the Surveyor's certification has been submitted and verified for correct location of wall lines.



- G. Surveyor: The Surveyor selected for any of the purposes mentioned in Paragraph E and Paragraph F above, and Paragraph I below, shall be a land Surveyor licensed in the State of New York and shall be subject to the approval of the Commissioner. The Surveyor shall not be a regular employee of the Contractor, nor shall the Surveyor have any interest in the Contract. The Surveyor shall not be employed by the Contractor in laying out any work, it being intended that the Surveyor's certification shall represent an independent and disinterested verification of such layout. The Surveyor shall report to the Department of Design and Construction's Resident Engineer each time upon arrival to and departure from the site and review with the Resident Engineer the data required for the project.
- H. Final Certification: Final certification shall be submitted upon completion of the work or upon completion of any subdivision of the work as directed by the Commissioner. Any exceptions or deviations from the drawings shall be noted on the final certificate and there shall be included any maps, plates, notes, pertinent documents and data necessary, in the opinion of the Commissioner, to constitute a full and complete report.
- I. Final Survey: The Contractor shall submit to DDC for submission to the Department of Buildings a final Survey by the licensed Surveyor showing the location of the new Structure, before completion of the Structure. This Survey shall show the location of the first tier of beams or of the first floor; the finish grades of the open spaces on the plot; the established curb level and the location of all other Structures on the plan, together with the location and boundaries of the lot or plot upon which the Structure is constructed, curb cuts, all yard dimensions, etc.

REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 3.4

3.4 BORINGS:

- A. The work of this Sub-Section shall be the responsibility of the Contractor unless otherwise indicated.
- B. Reference Drawings: The Boring Drawings as listed on the title sheet are for information to the bidder and are to be used under the conditions as follows:
 - 1. Boring Logs: shown on the Boring Drawings, record information obtained under engineering supervision in the course of exploration carried out by or under the direction of forces of the Department of Design and Construction at the site.
 - 2. Soils and Rock Samples: All inferences are drawn from the indications observed as made by engineering and scientific personnel. All such inferences and all records of the work including soil samples and rock cores, if any, are available to bidders for inspection.
 - 3. Certification of Samples: The City certifies that the work was carried out as stated, and that the soil samples and rock cores, if any were referred to, were actually taken from the site at the times, places and in the manner indicated. The samples are available for inspection in the Department of Design and Construction Subsurface Exploration Section.
 - 4. Bidder's Responsibility: The bidder, however, is responsible for any conclusions to be drawn from the work. If the bidder accepts those of the City, it must do so at its own risk. If the bidder prefers not to assume such risk, the bidder is under the obligation of employing its own experts to analyze the available information, and must be responsible for any consequences of acting on their conclusions.
 - 5. Continuity Not Guarantee: The City does not guarantee continuity of conditions shown at actual boring locations over the entire site. Where possible, borings are located to avoid all obstructions and previous construction which can be found by inspection of the surface and the bidder is required to estimate the influence of such features from its own inspection of the site.



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

3.5 EXAMINATION:

- A. Existing Conditions: The existence and location of site improvements, utilities, and other construction indicated as existing are not guaranteed. Before beginning work, investigate and verify the existence and location of mechanical and electrical systems and other construction affecting the Work.
 - 1. Before construction, verify the location and points of connection of utility services.
- B. Existing Utilities: The existence and location of underground utilities and other construction indicated as existing are not guaranteed. Before beginning site work, investigate and verify the existence and location of underground utilities and other construction affecting the Work.
 - 1. Before construction, verify the location and invert elevation at points of connection of sanitary sewer, storm sewer, and water-service piping; and underground electrical services.
 - 2. Furnish location data for work related to Project that must be performed by public utilities serving Project site.
- C. Acceptance of Conditions: Examine substrates, areas, and conditions, with the subcontractor responsible for installation or application present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance. Record observations.
 - 1. Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
 - 2. Examine roughing-in for mechanical and electrical systems to verify actual locations of connections before equipment and fixture installation.
 - 3. Examine walls, floors, and roofs for suitable conditions where products and systems are to be installed.
 - 4. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.

3.6 ENVIRONMENTAL ASSESSMENTS:

- A. City Responsibilities: An Environmental Assessment and survey is performed by the NYC DDC and its findings are included in the Contract Documents. In accordance with the NYC Administrative Code Title 15 Chapter 1 an asbestos survey is required to be performed by an Asbestos Investigator certified by the NYC Department of Environmental Protection (DEP) to identify the presence of asbestos containing material (ACM) prior to any alteration, renovation or demolition activity. The findings of such survey are required for the submission of approvals and permits issued by the NYC Department of Buildings (DOB). When the findings indicate that asbestos containing material is present and will be disturbed during the alteration, renovation or demolition activity then abatement design specifications will be incorporated into the contract documents. The Contractor shall comply with all federal, state and local asbestos regulations affecting the work for this Contract.
- B. Contractor Responsibility: The Contractor shall comply with all federal, state and local environmental regulations, including without limitation USEPA and OSHA regulations which require the Contractor to assess if lead based paint will be disturbed during the work in order to protect his/her workers and the building occupants from migration of lead dust into the air. The Contractor shall comply with all federal, state and local environmental waste disposal regulation which may be required during the work. The Contractor is required to hire licensed abatement and disposal companies for the requisite work.

3.7 PREPARATION:

- A. Field Measurements: The Contractor shall verify all dimensions and conditions on the job so that all work will properly join the existing work.
- B. The Contractor, before commencing work, shall examine all adjoining work on which its work is in any way dependent on good workmanship in accordance to the intent of the Specifications and the Contract



- Drawings. The Contractor shall report to the Commissioner any condition that will prevent it from performing work that conforms to the required standard.
- C. Existing Utility Information: Furnish information to the Commissioner that is necessary to adjust, move, or relocate existing utility structures, utility poles, lines, services, or other utility appurtenances located in or affected by construction. Coordinate with authorities having jurisdiction.
 - D. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.

3.8 DEFERRED CONSTRUCTION:

- A. Where necessity for deferred construction is certified by the Commissioner, in order to permit the installation of any item or items of equipment required to be furnished and installed concurrent with the time allowed for doing and completing the work of the Contract, the Contractor shall defer construction work limited to adequate areas as approved by the Commissioner.
- B. The Contractor shall confer with the affected trade subcontractors and ascertain arrangements, time and facilities necessary to be made by the Contractor in order to execute the provisions specified herein.

3.9 INSTALLATION:

- A. General: Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.
 - 1. Make vertical work plumb and make horizontal work level.
 - 2. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.
 - 3. Conceal pipes, ducts, and wiring in finished areas, unless otherwise indicated.
- B. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.
- C. Install products at the time and under conditions that will ensure the best possible results. Maintain conditions required for product performance until Substantial Completion.
- D. Conduct construction operations so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.
- E. Tools and Equipment: Do not use tools or equipment that produce harmful noise levels.
- F. Templates: Obtain and distribute to the parties involved templates for work specified to be factory prepared and field installed. Check Shop Drawings of other work and work of trade subcontractors to confirm that adequate provisions are made for locating and installing products to comply with indicated requirements.
- G. Anchors and Fasteners: Provide anchors and fasteners as required to anchor each component securely in place, accurately located and aligned with other portions of the Work.
 - 1. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by the Design Consultant.
 - 2. Allow for building movement, including thermal expansion and contraction.
 - 3. Coordinate installation of anchorages. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

- H. Joints: Make joints of uniform width. Where joint locations in exposed work are not indicated, arrange joints for the best visual effect. Fit exposed connections together to form hairline joints.
- I. Hazardous Materials: Use products, cleaners, and installation materials that are not considered hazardous.

3.10 PERMITS:

- A. The Contractor shall comply with all local, state and federal laws, rules and regulations affecting the Work of this Project, including, without limitation, (1) obtaining all necessary permits for the performance of the Work prior to commencement thereof, and (2) complying with all requirements for the disposal of demolition and/or construction debris, waste, etc., including disposal in City landfills. The Contractor shall be responsible for all costs in connection with such regulatory compliance, unless otherwise specified in the Contract.

3.11 TRANSPORTATION:

- A. Availability: It shall be the duty of the Contractor to determine the availability of transportation facilities and dockage for the use of its employees, equipment and material and the conditions under which such use will be permitted.
- B. Costs: If transportation facilities and dockage are available and are permitted to be used by the governmental agency having jurisdiction, the Contractor shall pay all necessary costs and expenses, and abide by all rules and regulations promulgated in connection therewith.
- C. Vehicles: With respect to the use of vehicles on highways and bridges, the Contractor's attention is directed to the limitations set forth in the Rules of the City of New York, Title 34, Chapter 4, Section 4-15.
- D. Continued Use: It is understood that the Commissioner makes no warranty as to the continued use by the Contractor of such facilities.

REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 3.12

3.12 SLEEVES AND HANGERS:

- A. Coordinate with Progress Schedule: The Contractor shall promptly furnish and install conduits, outlets, piping sleeves, boxes, inserts and all other materials and equipment that is to be built into the work in conformity with the requirements of the project.
- B. Cooperation of Subcontractors: All subcontractors shall fully cooperate with each other in connection with the performance of the above work as "cutting in" new work is neither contemplated nor will it be tolerated.
- C. Timeliness: In the event that timely delivery of sleeves and other materials cannot be made, and to avoid delay, the Contractor may arrange to have boxes or other forms set at the locations where the piping or other material is to pass through or into the slabs, walls or other work. Upon the subsequent installation of the sleeves or other material, the Contractor shall fill around them with materials as required by the Contract. The necessary expenditures incurred for the boxing out and filling in shall be borne by the Contractor.
- D. Inserts: The Contractor is to install strip inserts four (4) feet on center and perpendicular to beams in ceiling slabs of boiler, machine and mechanical equipment rooms. Inserts are to be installed for strippable concrete slabs only.



REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 3.13

3.13 SLEEVE AND PENETRATION DRAWINGS:

- A. As soon as practicable after the commencement of work and when the order in which concrete for the first slabs, walls, etc. to be poured is determined, the Contractor shall submit to the Resident Engineer a sketch indicating the location and size of all penetrations for sleeves, ducts, etc. which will be required to accommodate the mechanical trades, in order to determine if such penetrations will materially weaken the project's structure. The sketch shall be stamped and returned if approved and/or comments will be transmitted. The Contractor shall continue to submit sketches as the pouring schedule and the concrete work progresses and, until approvals for the penetration sketches have been given. The Contractor shall not predicate its layout work on unapproved sketches.

3.14 CUTTING AND PATCHING:

- A. Responsibility: The Contractor shall do all cutting, patching and restoration required by its work, unless otherwise particularly specified in the Specifications.
- B. Restore Work: The Contractor shall restore any work damaged during the performance of the work.
- C. Competent Workers: All restoration work shall be done to the satisfaction of the Commissioner by competent workers skilled in the trade required by such restoration. If, in the judgment of the Commissioner, workers engaged in restoration work are incompetent, they shall be replaced immediately by competent workers.
- D. Structural Elements: Do not cut and patch structural elements without the prior approval, in writing, of the Resident Engineer.
- E. Operational Elements: Do not cut and patch operating elements and related components.
- F. Visual Requirements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch construction exposed on the exterior or in occupied spaces in a manner that would, in Commissioner's opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.
- G. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during cutting and patching operations, by methods and with materials so as not to void existing warranties.
- H. Removals: The Contractor must remove from the premises all demolished materials of every nature or description resulting from cutting, patching and restoration work, in accordance with the requirements hereinafter stipulated under Sub-Section 3.17 herein and as further required in Section 01 74 19, CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL.

REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 3.15

3.15 LOCATION OF PARTITIONS:

- A. Within three (3) weeks after the concrete slabs have been poured on each floor level, the Contractor shall immediately locate accurately all of the partitions, including the door openings, on the floor slabs in a manner approved by the Resident Engineer.



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

3.16 FURNITURE AND EQUIPMENT:

- A. Responsibility: The Contractor is responsible for moving all loose furniture and/or equipment in all areas where the location of such furniture and/or equipment interferes with the proper performance of its work.
- B. Protection: All such furniture and/or equipment must be adequately protected with dust cloths and returned to their original locations when directed to do so by the Resident Engineer.

3.17 REMOVAL OF RUBBISH AND SURPLUS MATERIALS:

- A. Of the waste that is generated during demolition, as many of the waste materials as economically feasible, and as stated here, shall be reused, salvaged, or recycled. Waste disposal in landfills shall be minimized. Comply with requirements of Section 01 74 19, CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL.
- B. Rubbish: Rubbish shall not be thrown from the windows or other parts of the project. Mason's rubbish, dirt and other dust-producing material shall be wetted down periodically.
- C. Location: The Contractor shall clean Project site and work area daily and sweep up and deposit, at a location designated on each floor, all of its rubbish, debris and waste materials, as it accumulates and when directed by the Resident Engineer. Wood crating shall be broken up, neatly bundled, tied and stacked ready for removal and be deposited at a location designated on each floor.
 - 1. Comply with requirements in NYC Fire Department for removal of combustible waste materials and debris.
 - 2. Do not hold materials more than 7 days during normal weather or 3 days if the temperature is expected to rise above 80 degrees F (27 degrees C).
 - 3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.
- D. Laborers: The Contractor shall be responsible for the removal of all rubbish, etc., from the site. The Contractor shall remove from the designated locations all piles of rubbish, debris, waste material and wood crating as they accumulate and when directed by the Resident Engineer, and shall remove them from the site. The Contractor shall employ and keep engaged for this purpose an adequate number of laborers.
- E. Surplus Materials: The Contractor shall remove from the site all surplus materials when there is no further use for same.
- F. Tools And Materials: At the conclusion of the work, all erection plant, tools, temporary structures and materials belonging to the Contractor shall be promptly removed.
- G. Waste Disposal: Burying or burning waste materials on-site will not be permitted. Washing waste materials down sewers or into waterways will not be permitted.

3.18 CLEANING:

- A. The Contractor shall thoroughly clean all equipment and materials furnished and installed and shall deliver such materials and equipment undamaged in a clean and new appearing condition up to date of Final Acceptance.
- B. Site: Maintain Project site free of waste materials and debris.
- C. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.
- D. Concealed Spaces: Remove debris from concealed spaces before enclosing the space.



- E. Exposed Surfaces in Finished Areas: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration up to date of Final Acceptance.
- F. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration up to date of Final Acceptance.

3.19 SECURITY AND PROTECTION OF WORK SITE:

- A. Provide protection of installed work, including appropriate protective coverings and maintain conditions that ensure installed Work is without damage or deterioration up to date of Final Acceptance..
- B. Comply with manufacturer's written instructions for temperature and relative humidity.
- C. Secure and protect work and work site against damage, loss, injury, theft and/or vandalism.
- D. Maintain daily sign-in sheets of workers and visitors and make the sheets available to the Commissioner

3.20 MAINTENANCE OF SITE AND ADJOINING PROPERTY:

- A. The Contractor shall take over and maintain the Project site, after order to start work.
- B. The Contractor shall be responsible for the safety of the adjoining property, including sidewalks, paving, fences, sewers, water, gas, electric and other mains, pipes and conduits etc. until the date of Final Acceptance. The Contractor shall, at its own expense, except as otherwise specified, protect same and maintain them in at least as good a condition as that in which the Contractor finds them.
- C. All pavements, sidewalks, roads and approaches to fire hydrants shall be kept clear at all times, maintained and repaired to serviceable condition with materials to match existing.
- D. Provide and keep in good repair all bridging and decking necessary to maintain vehicular and pedestrian traffic.
- E. The Contractor shall also remove all snow and ice as it accumulates on the sidewalks within the Contract Limits Lines.

3.21 MAINTENANCE OF PROJECT SITE:

- A. The Contractor shall take over and maintain all project areas, after order to start work.
- B. Until the date of Final Acceptance, the Contractor shall be responsible for the safety of all project areas, including water, gas, electric and other mains and pipes and conduits and shall at the Contractor's own expense, except as otherwise specified, protect same and maintain them in at least as good condition as that in which the Contractor finds them.
- C. All pavements, sidewalks, roads and approaches to fire hydrants shall be kept clear at all times, maintained, and if damaged, repaired to serviceable conditions with materials to match existing.
- D. The Contractor shall keep the space for the Resident Engineer in a clean condition.

3.22 SAFETY PRECAUTIONS FOR CONTROL CIRCUITS:

- A. Control circuits, the failure of which will cause a hazard to life and property, shall comply with the New York City 2011 Electrical Code requirements.

3.23 OBSTRUCTIONS IN DRAINAGE LINES:

- A. The Contractor shall be responsible for all obstructions occurring in all drainage lines, fittings and fixtures after the installations and cleaning of these drainage lines, fittings and fixtures as certified by the Resident Engineer. Roof drains shall be kept clear of any and all debris. Any stoppage shall be repaired immediately at the expense of the Contractor.

END OF SECTION 01 73 00



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

SECTION 01 74 19
CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

PART I – GENERAL

1.1 RELATED DOCUMENTS:

- A. The following documents apply to all required work for the Project: (1) the Contract Drawings, (2) the Specifications, (3) the General Conditions, (4) the Addendum, and (5) the Contract [City of New York Standard Construction Contract].

1.2 SUMMARY:

- A. This section includes administrative and procedural requirements for the management and disposal of construction waste and includes the following requirements:
1. Waste Management Goals
 2. Waste Management Plan
 3. Progress Reports
 4. Progress Meetings
 5. Management Plan Implementation
- B. This Section includes:
1. Definitions
 2. Waste Management Performance Requirements
 3. Reference Resources
 4. Submittals
 5. Quality Assurance
 6. Waste Plan Implementation
 7. Additional Demolition and Salvage Requirements
 8. Disposal

1.3 RELATED SECTIONS: Include without limitation the following:

- | | | |
|----|------------------|--|
| A. | Section 01 10 00 | SUMMARY |
| B. | Section 01 31 00 | PROJECT MANAGEMENT AND COORDINATION |
| C. | Section 01 32 00 | CONSTRUCTION PROGRESS DOCUMENTATION |
| D. | Section 01 73 00 | EXECUTION |
| E. | Section 01 77 00 | CLOSEOUT PROCEDURES |
| F. | Section 01 78 39 | CONSTRUCTION RECORD DOCUMENTS |
| G. | Section 01 81 13 | SUSTAINABLE DESIGN REQUIREMENTS FOR LEED BUILDINGS |

1.4 DEFINITIONS:

- A. Refer to Article 2 of the Contract for definition of terms, words and expressions used in the General Conditions not otherwise defined herein.
- B. Design Consultant: "Design Consultant" shall mean the entity responsible for providing design services for the Project, including without limitation, preparing the construction documents (drawings and specifications) and providing services in connection with such documents during construction. The entity serving as the "Design Consultant" may be a corporation, firm, partnership, joint venture, individual or combination thereof. Such entity may be either an employee(s) of the City or an entity engaged by the City to provide such services.
- C. Clean: Untreated and unpainted; not contaminated with oils, solvents, caulk or the like.



- D. Construction and Demolition Waste: Solid wastes typically including building materials, trash debris and rubble resulting from remodeling, repair and demolition operations. Hazardous materials and land clearing waste are not included.
- E. Diversion from Landfill: To remove, or have removed, from the site for recycling, reuse or salvage, material that might otherwise be sent to a landfill.
- F. Recyclable: The ability of a product or material to be recovered at the end of its life cycle and remanufactured into a new product.
- G. Recycle (recycling): To sort, separate, process, treat or reconstitute solid waste and other discarded materials for the purpose of redirecting such materials into the manufacture of useful products. Recycling does not include burning, incinerating or thermally destroying waste.
- H. Return: To give back reusable items or unused products to vendors.
- I. Reuse: To reuse excess or discarded construction material in some manner on the Project site.
- J. Salvage: To remove a waste material from the Project site for resale or reuse.
- K. Waste: Extra material or material that has reached the end of its useful life in its intended use. Waste includes salvageable, returnable, recyclable and reusable material.
- L. Waste Management Plan: A project-related plan for the collection, transportation and disposal of waste generated at the construction site. The purpose of the plan is to ultimately reduce the amount of material becoming landfill.

1.5 WASTE MANAGEMENT PERFORMANCE REQUIREMENTS:

- A. The City of New York has established that this project shall generate the least amount of waste possible and that processes that ensure the generation of as little waste as possible due to error, inaccurate planning, breakage, mishandling, contamination, or other factors shall be employed.
- B. Of the waste that is generated during demolition, as many of the waste materials as economically feasible, and as stated here, shall be reused, salvaged, or recycled. Waste disposal in landfills shall be minimized.

REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 1.5 C

- C. LEED CERTIFICATION: The City of New York will seek LEED (Leadership in Energy and Environmental Design) certification for this Project as indicated in the Addendum to the General Conditions from the U.S. Green Building Council. The documentation required here will be used for this purpose. LEED awards points for a variety of sustainable design measures on a project, one of which is the reuse and recycling of project waste.
- D. DIVERSION REQUIREMENTS. A minimum of 75% of total Project demolition waste (by weight) shall be diverted from landfill. The following waste categories are likely candidates to be included in the diversion plan as applicable for this project:
 - 1. Concrete
 - 2. Bricks
 - 3. Concrete masonry units (CMU)
 - 4. Asphalt
 - 5. Metals (e.g. banding, stud trim, ceiling grid, ductwork, piping, rebar, roofing, other trim, steel, iron, galvanized, stainless steel, aluminum, copper, zinc, brass, bronze)



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

6. Clean dimensional wood
 7. Carpet and pad
 8. Drywall
 9. Ceiling tiles
 10. Cardboard, paper, and packaging
 11. Reuse items indicated on the Drawings and/or elsewhere in the Specification
- E. All fluorescent lamps, HID lamps and mercury-containing thermostats removed from the site shall be recycled.
- F. Recycling on the job, subject to the Commissioner's approval, is encouraged on the site itself, such as the crushing and reuse of removed sound concrete and stone. Include these categories in the Waste Management Plan.

1.6 REFERENCES, RESOURCES:

- A. DDC encourages its contractors to seek information from websites and experts in salvage or recycling in order to minimize disposal costs. There are numerous opportunities to sell, salvage, or to donate materials and accrue tax benefits (which would accrue to the contractor); also there are outlets that will pick up, and in some cases buy recyclable materials. Examples of information resources are as follows:
1. DDC's Sustainable Design web site:
http://www.nyc.gov/html/ddc/html/design/sustainable_home.shtml This includes a manual on Construction and Demolition Waste Reduction and Recycling, a Sample Waste Management Plan and sample C&D Waste Management log. A standard Construction and Demolition Waste Management Log form is included at the end of this section.
 2. Web Resources
(Information only; no warranty or endorsement is implied.)
www.wastematch.org Site of New York Waste Match, a materials exchange database and service
www.bignyc.org Site of Build It Green NYC, a non-profit outlet for salvaged and surplus building materials
www.usgbc.org Site of the United States Green Building Council, with a description of the LEED certification process and requirements for C&D waste recycling
www.epa.gov/epawaste/index.htm Site of the U.S. Environmental Protection Agency that discusses construction and demolition waste issues, and links to other resources.

1.7 SUBMITTALS:

- A. The Contractor shall be responsible for the development and implementation of a Waste Management Plan for the Project. The Contractor's subcontractors shall assist in the development of that Plan, and collect and deposit their waste and recyclable materials in accordance with the approved Plan.
- B. DRAFT WASTE MANAGEMENT PLAN. Within fifteen (15) days after receipt of 'Notice to Proceed', or prior to any waste removal, whichever occurs sooner, the Contractor shall submit to the Commissioner a Draft Waste Management Plan. Include separate sections for demolition and construction waste. The Plan shall demonstrate how the performance goals will be met, and contain the following:



1. List of materials targeted for reuse, salvage, or recycling, and names, addresses, and phone numbers of receiving facilities/companies that will be purchasing or accepting each material.
 2. Description of onsite and/or offsite sorting methods for all materials to be removed from site.
 3. If mixed construction and demolition waste is to be sorted off-site, provide a letter from the processor stating the average percentage of mixed construction and demolition waste they recycle.
 4. Landfill information: Names of landfills where non-recyclable/reusable/salvageable waste will be disposed, and list of applicable tipping fees.
 5. Materials handling procedures: A description of the means by which any recyclable, salvaged, or reused materials will be protected from contamination, and collected in a manner that will meet the requirements for acceptance by the designated recycling processors.
 6. Transportation: A description of the means of transportation and destination for recycled materials.
 7. Meetings: Description of regular meetings to be held to address waste management.
 8. Sample spreadsheet and description of how the implementation of the plan will be documented on a monthly basis.
- C. FINAL WASTE MANAGEMENT PLAN. Within fifteen (15) days of Commissioner's approval of the Draft Plan, the Contractor shall submit a Final Waste Management Plan.
- D. PROGRESS REPORTS. The Contractor shall submit monthly a Waste Management Progress Report, containing the following information:
1. Project title, name of company completing report, and dates of period covered by the report
 2. Report on the disposal of all jobsite waste. A DDC C&D Waste Management Log form is available on the DDC Sustainable Design website and included at the end of this section. For each shipment of material removed from the site, provide the following:
 - a. Date and ticket number of removal
 - b. Identity of material hauler
 - c. Material Category
 - d. Total quantity of waste, in tones/cubic yards, by type
 - e. Quantity of waste salvaged, recycled and/or reused, by type
 - f. Total quantity of waste diverted from landfill (recycled, salvaged, reused) as a percentage of total waste
 - g. Recipient of each material type
 3. Provide monthly and cumulative project totals of waste, quantity diverted, and percentage diverted.
 4. Note that the unit of measure may be either tons or cubic yards, but must be consistent for all shipments and all materials throughout the project. Reports with inconsistent or mixed units will not be reviewed and will be returned for re-submission.
 5. Include legible copies of on-site logs, weight tickets and receipts. Receipts shall be from charitable organizations, recycling and/or disposal site operators who can legally accept the materials for the purpose of reuse, recycling or disposal. Contractor shall save such original documents for the life of the project plus seven (7) years.
- E. LEED Submittal: For LEED designated projects submit LEED Letter Template for the applicable credit, signed by the Contractor, tabulating total waste material, quantities diverted and means by which it is diverted, and statement that requirements for the credit have been met.
- F. Refrigerant Recovery. Submit Qualification data for Refrigerant recovery technician and statement of refrigerant recovery, signed by the refrigerant recovery technician responsible for recovering refrigerant



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

stating that all refrigerant that was present was recovered and that recovery was performed according to EPA regulations. Include name and address of technician and date refrigerant was recovered.

1.8 QUALITY ASSURANCE:

- A. The Contractor shall designate a Waste Management Coordinator, to ensure compliance with this section. Coordinator shall be present at Project site full time for the duration of the project.
- B. Refrigerant Recovery Technician Qualifications: Certified by EPA-approved certification program.
- C. Regulatory Requirements: Comply with hauling and disposal regulations of authorities having jurisdiction.
- D. Waste management plans, documentation and implementation shall be discussed at the following meetings:
 - 1. Pre-demolition kick-off meeting
 - 2. Pre-construction kick-off meeting
 - 3. Regular job-site meetings
 - 4. Contractor toolbox meetings

PART II – PRODUCTS (Not Used)

PART III – EXECUTION

3.1 WASTE PLAN IMPLEMENTATION:

- A. The Contractor shall implement the Waste Management Plan, coordinate the Plan with all affected trades, and designate one individual as the Construction Waste Management Representative, who will be responsible for communicating the progress of the Plan with the Commissioner on a regular basis, and for assembling the required LEED documentation.
- B. The Contractor shall be responsible for the provision of containers and the removal of all waste, non-returned surplus materials, and rubbish from the site in accordance with the approved Waste Management Plan. The Contractor shall oversee and document the results of the Plan. Monies received for salvaged materials shall remain with the Contractor, except the monies for those items specifically identified elsewhere in the specifications, or indicated on the drawings as belonging to others.
- C. Responsibilities of Subcontractors: Each subcontractor shall be responsible for collecting its waste, non-returned surplus materials, and rubbish, in accordance with the Waste Management Plan.
- D. Distribution. The Contractor shall distribute copies of the Waste Management Plan to each Subcontractor, Resident Engineer, Construction Manager, and Commissioner.
- E. Training. The Contractor shall provide on-site instruction of proper waste management procedures to be used by all parties in appropriate stages of the Project.
- F. Procedures. Conduct waste management operations to ensure minimum interference with site vegetation, roads, streets, walks and other adjacent occupied and used facilities.
 - 1. Collect co-mingled waste and/or separate all recyclable waste in accordance with the Plan. Specific areas on the Project site are to be designated, and appropriate containers and bins clearly marked with acceptable and unacceptable materials.
 - 2. Inspect containers and bins for contamination and remove contaminated materials if found.



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

Division 01 – DDC STANDARD GENERAL CONDITION
SINGLE CONTRACT PROJECTS
Issue Date - June 01, 2013

3. Comply with the General Conditions for controlling dust and dirt, environmental protection, and noise control.

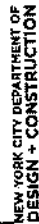
3.2 ADDITIONAL DEMOLITION AND SALVAGE REQUIREMENTS:

- A. Demolition and salvage of additional items indicated in other sections of the Project Specifications require special attention as part of the overall 75 % diversion from landfill. Specific requirements for special attention are designated in other sections of the Project Specifications.

3.3 DISPOSAL:

- A. General. Except for items or material to be salvaged, recycled or otherwise reused, remove waste material from the Project site and legally dispose of them in a manner acceptable to authorities having jurisdiction.
 1. Except as otherwise specified, do not allow waste materials that are to be disposed of to accumulate on site.
 2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
- B. Burning. Do not burn waste materials
- C. Disposal. Transport waste materials off Project Site and legally dispose of them.

END OF SECTION 01 74 19



CONSTRUCTION AND DEMOLITION WASTE MANAGEMENT LOG

For Month: _____
Contractor: _____
Prepared by: _____

Project Name: _____

Project I.D.: _____

[illegible]

Cumulative Totals

Notes:

- Notes:
1. Volume (cubic yards) may be used instead of weight if used for ALL amounts and ALL materials.
 2. Includes concrete; bricks; concrete masonry units (CMU); asphalt; metals; clean dimensional wood; carpet and pad; drywall; ceiling tiles; cardboard, paper, and packaging; and any other reuse items indicated on the Drawings and/or elsewhere in the Specification.
 3. Excluded material includes soil or land clearing debris.
 4. Diverted material includes recycled and reused material diverted from landfill. Recycled material is reprocessed into new products. Reused material is reclaimed, salvaged or otherwise used in its original form, either on-site or off-site.
- These items must be listed in order to receive LEED credit.



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

CONSTRUCTION AND DEMOLITION WASTE MANAGEMENT LOG

No Text



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

SECTION 01 77 00
CLOSEOUT PROCEDURES

PART I – GENERAL

1.1 RELATED DOCUMENTS:

- A. The following documents apply to all required work for the Project: (1) the Contract Drawings, (2) the Specifications, (3) the General Conditions, (4) the Addendum, and (5) the Contract [City of New York Standard Construction Contract].

1.2 SUMMARY:

- A. This Section includes administrative and general procedural requirements for Closeout Procedures, including without limitation the following:
1. Definitions
 2. Substantial Completion
 3. Final Acceptance
 4. Warranties
 5. Final Cleaning
 6. Repair of the Work
- B. LEED: Refer to the Addendum to identify whether this project is designed to comply with a Certification Level according to the U.S. Green Building Council's Leadership in Energy & Environmental Design (LEED) Rating System, as specified in Section 01 81 13, "SUSTAINABLE DESIGN REQUIREMENTS FOR LEED BUILDINGS."
- C. COMMISSIONING: Refer to the Addendum to identify whether this project will be commissioned by an independent third party under separate contract with the City of New York. Commissioning shall be in accordance with ASHRAE and USGBC LEED- NC procedures, as described in Section 01 91 13, GENERAL COMMISSIONING REQUIREMENTS. The Contractor shall cooperate with the commissioning agent and provide whatever assistance is required.

1.3 RELATED SECTIONS: include without limitation the following:

- | | | |
|----|------------------|--|
| A. | Section 01 10 00 | SUMMARY |
| B. | Section 01 33 00 | SUBMITTAL PROCEDURES |
| C. | Section 01 74 19 | CONSTRUCTION WASTE MANAGEMENT & DISPOSAL |
| D. | Section 01 78 39 | CONTRACT RECORD DOCUMENTS |
| E. | Section 01 79 00 | DEMONSTRATION AND OWNER'S PRE-ACCEPTANCE ORIENTATION |

1.4 DEFINITIONS:

- A. Refer to Article 2 of the Contract for definition of terms, words and expressions used in the General Conditions not otherwise defined herein.
- B. Design Consultant: "Design Consultant" shall mean the entity responsible for providing design services for the Project, including without limitation, preparing the construction documents (drawings and specifications) and providing services in connection with such documents during construction. The entity serving as the "Design Consultant" may be a corporation, firm, partnership, joint venture, individual or



combination thereof. Such entity may be either an employee(s) of the City or an entity engaged by the City to provide such services.

- C. Substantial Completion: shall mean the written determination by the Commissioner that the Work required under the Contract is substantially, but not entirely, complete.
- D. Final Acceptance: shall mean final written acceptance of all the Work by the Commissioner, a copy of which shall be sent to the Contractor.

1.5 SUBSTANTIAL COMPLETION:

- A. Preliminary Procedures: Before requesting inspection to determine the date of Substantial Completion, the Contractor shall complete and supply all items required by the contract specifications, General Conditions, Addendum to the General Conditions, change orders or other directives from the Commissioner's representatives. The required items will include all contract requirements for substantial completion, including but not limited to items related to releases, regulatory approvals, warranties and guarantees, record documents, testing, demonstration and orientation, final clean up and repairs, and all specific checklist of items by the Resident Engineer. (See Attachment "A" at the end of this section for sample requirements for Substantial Completion).
- B. Prepare and submit a list to the Resident Engineer of incomplete items, the value of incomplete construction, and reasons the work is not complete.
- C. Inspection: The Contractor shall submit to the Resident Engineer a written request for inspection for Substantial Completion. Within ten (10) days of receipt of the request, the Resident Engineer will either proceed with inspection or notify Contractor of unfulfilled requirements. The Resident Engineer may request the services, as required, of the Design Consultant, Client Agency Representative and/or other entities having involvement with the Work to assist in the inspection of the Work. If the Resident Engineer makes a determination that the work is substantially complete and approves the Final Punch List and the date for Final Acceptance, he/she will so advise the Commissioner and recommend issuance of the Certificate of Substantial Completion. If the Resident Engineer determines that the work is not substantially complete, he/she will notify the Contractor of those items that must be completed or corrected before the Certificate of Substantial Completion will be issued.
 - 1 Re-inspection: Contractor shall request re-inspection when the Work identified in previous inspections as incomplete is completed or corrected.
 - 2 Results of completed inspection will form the basis of requirements for Final Acceptance.

1.6 FINAL ACCEPTANCE:

- A. Preliminary Procedures: Before requesting final inspection for Final Acceptance of the Work, the Contractor shall complete the following. (Note that the following are to be completed, submitted as appropriate, and approved by the Commissioner, as applicable, prior to the final inspection and are not to be submitted for approval or otherwise at the final inspection unless specifically indicated). List exceptions in the request.
 - 1. Verify that all required submittals have been provided to the Commissioner including but not limited to the following:
 - a. Manufacturer's cleaning instructions
 - b. Posted instructions
 - c. As-built Record Documents (Drawings, specifications, and product data) as described in Section 01 78 39, CONTRACT RECORD DOCUMENTS, incorporating any changes required by the Commissioner as a result of the review of the submission prior to the pre-final inspection.
 - d. Operation and Maintenance Manuals, including Preventive Maintenance, Special Tools, Repair Requirements, Parts List, Spare Parts List, and Operating Instructions.



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

- e. Completion of required Demonstration and Orientation, as applicable, of designated personnel in operation and maintenance of systems, sub-systems and equipment.
 - f. Applicable LEED Building submittals as described in Section 01 81 13, SUSTAINABLE DESIGN REQUIREMENTS FOR LEED BUILDINGS.
 - g. Construction progress photographs as described in Section 01 32 33, PHOTOGRAPHIC DOCUMENTATION.
- 2. Submit a certified copy of the final approved Punch List of items to be completed or corrected. The certified copy of the Punch List shall state that each item has been completed or otherwise resolved for acceptance, and shall be endorsed and dated by the Contractor.
 - 3. Submit pest-control final inspection report and survey as required in Section 01 50 00, TEMPORARY FACILITIES AND CONTROLS.
 - 4. Submit record documents and similar final record information.
 - 5. Deliver tools, spare parts, extra stock and similar items.
 - 6. Complete final clean-up requirements including touch-up painting of marred surfaces.
 - 7. Submit final meter readings for utilities, as applicable, a measured record of stored fuel, and similar data as of the date when the City took possession of and assumed responsibility for corresponding elements of the work.
- B. Final Inspection: The Contractor shall submit to the Resident Engineer a written request for inspection for Final Acceptance of the Work. Within ten (10) days of receipt of the request, the Resident Engineer will either proceed with inspection or notify the Contractor of unfulfilled requirements. The Resident Engineer may request the services, as required, of the Design Consultant, Client Agency Representative and/or other entities having involvement with the Work to assist in the inspection of the Work. If the Resident Engineer finds that all items on the Final Approved Punch List are complete and no further work remains to be done, he/she will so advise the Commissioner and recommend the issuance of the determination of Final Acceptance. If the Resident Engineer determines that the work is not complete, he/she will notify the Contractor of those items that must be completed or corrected before the determination of Final Acceptance will be issued.
- C. Final Acceptance: The Work will be accepted as final and complete as of the date of the Resident Engineer's inspection if, upon such inspection, the Resident Engineer finds that all items on the Punch List are complete and no further Work remains to be done. The Commissioner will then issue a written determination of Final Acceptance.

1.7 WARRANTIES:

- A. The items of materials and/or equipment for which manufacturer warranties are required are listed in Schedule B of the Addendum. For each item of material and/or equipment listed in Schedule B, the Contractor shall obtain a written warranty from the manufacturer. Such warranty shall provide that the material or equipment is free from defects for the period set forth in Schedule B and will be replaced or repaired within such specified period. The contractor shall deliver all required warranties to the Commissioner.
- B. Unless indicated otherwise Warranties are to take effect on the date of Substantial Completion.
- C. Submittal Time: Submit written Warranties on request of the Commissioner for designated portions of the Work where commencement of Warranties other than date of Substantial Completion is indicated.
- D. Partial Occupancy: Submit properly executed Warranties to the Commissioner within 15 days of completion of designated portions of the Work that are completed and occupied or used by the City.
- E. Organize the Warranty documents into an orderly sequence based on the Project Specification Divisions and Section Numbers.



1. Bind Warranties in heavy-duty, 3-ring, vinyl-covered, loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2-by-11-inch paper.
 2. Identify each binder on the front and spine with the typed or printed title "WARRANTIES;" name and location of Project; Capitol Budget Project Number (FMS ID); and Contractor's and applicable subcontractor's name and address.
 3. Provide heavy paper dividers with plastic-covered tabs for each separate Warranty. Mark tab to identify the product or installation.
 4. Provide a typed description of each product or installation being warranted, including the name of the product, and the name, address, and telephone number of the Installer.
- F. When warranted materials and/or equipment require operation and maintenance manuals, provide additional copies of each required Warranty in each required manual. Refer to Section 01 78 39, CONTRACT RECORD DOCUMENTS, for requirements of Operation and Maintenance Manuals.

PART II – PRODUCTS

2.1 MATERIALS:

- A. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.

PART III – EXECUTION

3.1 FINAL CLEANING:

- A. General: Provide final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.
- B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.
1. Complete the following cleaning operations, as applicable, before requesting inspection for Final Acceptance of the Work for entire Project or for a portion of Project:
 - a. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.
 - b. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.
 - c. Rake grounds that are neither planted nor paved to a smooth, even-textured surface.
 - d. Remove tools, construction equipment, machinery, and surplus material from Project site.
 - e. Remove snow and ice to provide safe access to building.
 - f. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.
 - g. Remove debris and surface dust from limited access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.
 - h. Sweep concrete floors broom clean in unoccupied spaces.
 - i. Vacuum carpet and similar soft surfaces, removing debris and excess nap; shampoo if visible soil or stains remain.



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

- j. Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compounds and other noticeable, vision-obscuring materials. Replace chipped or broken glass and other damaged transparent materials. Polish mirrors and glass, taking care not to scratch surfaces.
 - k. Remove labels that are not permanent.
 - l. Touch up and otherwise repair and restore marred, exposed finishes and surfaces. Replace finishes and surfaces that cannot be satisfactorily repaired or restored or that already show evidence of repair or restoration.
 - 1) Do not paint over "UL" and similar labels, including mechanical and electrical nameplates.
 - m. Wipe surfaces of mechanical and electrical equipment and similar equipment. Remove excess lubrication, paint and mortar droppings, and other foreign substances.
 - n. Replace parts subject to unusual operating conditions.
 - o. Clean plumbing fixtures to a sanitary condition, free of stains, including stains resulting from water exposure.
 - p. Replace disposable air filters and clean permanent air filters. Clean exposed surfaces of diffusers, registers, and grills.
 - q. Clean ducts, blowers, and coils if units were operated without filters during construction.
 - r. Clean light fixtures, lamps, globes, and reflectors to function with full efficiency. Replace burned-out bulbs, and those noticeably dimmed by hours of use, and defective and noisy starters in fluorescent and mercury vapor fixtures to comply with requirements for new fixtures.
 - s. Leave Project clean and ready for occupancy.
 - t. Construction Waste Disposal: Comply with waste disposal requirements in Section 01 74 19, CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL.
- C. Pest Control: Engage an experienced, licensed exterminator to make a final inspection and rid Project of rodents, insects, and other pests, as required in Section 01 50 00, TEMPORARY FACILITIES, SERVICES AND CONTROLS. Prepare and submit a Pest Control report to the Commissioner.
- D. Comply with safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on City's property. Do not discharge volatile, harmful, or dangerous materials into drainage systems. Remove waste materials from Project site and dispose of lawfully.

3.2 REPAIR OF THE WORK:

- A. Subject to the terms of the Contract the Contractor shall complete repair and restoration operations before requesting inspection for determination of Substantial Completion.
- B. Contractor shall repair or remove and replace defective construction. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment. Where damaged or worn items cannot be repaired or restored, provide replacements. Remove and replace operating components that cannot be repaired. Restore damaged construction and permanent facilities used during construction to specified condition.
 - 1. Remove and replace chipped, scratched, and broken glass, reflective surfaces, and other damaged transparent materials.
 - 2. Touch up and otherwise repair and restore marred or exposed finishes and surfaces. Replace finishes and surfaces that already show evidence of repair or restoration.
 - a. Do not paint over "UL" and other required labels and identification, including mechanical and electrical nameplates. Remove paint applied to required labels and identification.



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

Division 01 – DDC STANDARD GENERAL CONDITIONS
SINGLE CONTRACT PROJECTS
Issue Date - June 01, 2013

3. Replace parts subject to operating conditions during construction that may impede operation or reduce longevity.
4. Replace burned-out bulbs, bulbs noticeably dimmed by hours of use, and defective and noisy starters in fluorescent and mercury vapor fixtures to comply with requirements for new fixtures.

END OF SECTION 01 77 00



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

SECTION 01 77 00

ATTACHMENT 'A'

The following list is a general sample of Substantial Completion requirements, including but not limited to:

1. Prepare and submit a list to the Resident Engineer, of incomplete items, the value of incomplete construction, and reasons the work is not complete.
2. Obtain and submit any necessary releases enabling the City unrestricted use of the project and access to services and utilities.
3. Regulatory Approvals: Submit all required documentation from applicable Governing Authorities, including, but not limited to, Department of Buildings (DoB); Department of Transportation (DoT); Department of Environmental Protection (DEP); Fire Department (FDNY); etc. Documentation to include, but not limited to, the following:
 - a. Building Permits, Applications and Sign-offs.
 - b. Permits and Sign-off for construction fences; sidewalk bridges; scaffolds, cranes and derricks; utilities; etc.
 - c. Certificates of Inspections and Sign-offs.
 - d. Required Certificates and Use Permits.
 - e. Certificate of Occupancy (C.O.), Temporary Certificate of Occupancy (T.C.O.) or Letter of Completion as applicable.
4. Submit specific warranties required by the specifications, final certifications, and similar documents.
5. Prepare and submit Record Documents as described in Section 01 78 39, CONTRACT RECORD DOCUMENTS, including but not limited to; approved documentation from Governing Authorities; as-built record drawings and specifications; product data; operation and maintenance manuals; Final Completion construction photographs; damage or settlement surveys; final property surveys; and similar final record information. The Resident Engineer will review the submission and provide appropriate comments. If comments are significant the initial submission will be returned to the Contractor for correction and re-submission incorporating the comments prior to the Final Inspection.
6. Record Waste Management Progress Report: Submit C&D Waste Management logs, with legible copies of weight tickets and receipts required in accordance with Section 01 74 19, CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL.
7. If applicable submit LEED Letter Template in accordance with the requirements of Section 01 81 13, SUSTAINABLE DESIGN REQUIREMENTS FOR LEED BUILDINGS.
8. Schedule applicable Demonstration and Orientation required in other Sections of the Project Specifications and as described in Section 01 79 00, DEMONSTRATION AND OWNER'S PRE-ACCEPTANCE ORIENTATION.
9. Deliver tools, spare parts, extra materials, and similar items to location designated by Resident Engineer. Label with manufacturer's name and model number where applicable.
10. Make final changeover of permanent locks and deliver keys to the Resident Engineer. Advise Commissioner of changeover in security provisions.
11. Complete startup testing of systems as applicable.
12. Submit approved test/adjust/balance records.
13. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements as directed by the Resident Engineer.
14. If applicable complete Commissioning requirements as defined in Section 01 91 13, GENERAL COMMISSIONING REQUIREMENTS.
15. Complete final cleaning requirements, including touchup painting.
16. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

Division 01 – DDC STANDARD GENERAL CONDITIONS
SINGLE CONTRACT PROJECTS
Issue Date - June 01, 2013

No Text

CLOSEOUT PROCEDURES
01 77 00 -8



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

SECTION 01 78 39
CONTRACT RECORD DOCUMENTS

PART I – GENERAL

1.1 RELATED DOCUMENTS:

- A. The following documents apply to all required work for the Project: (1) the Contract Drawings, (2) the Specifications, (3) the General Conditions, (4) the Addendum, and (5) the Contract [City of New York Standard Construction Contract].

1.2 SUMMARY:

- A. This Section includes administrative and general procedural requirements for Contract Record Documents, including:
1. As-built Contract Record Drawings.
 2. As-built marked-up copies of Record Specifications, addenda and Change Orders.
 3. As-built marked-up Product Data
 4. Record Samples
 5. Construction Record Photographs
 6. Operating and Maintenance Manuals
 7. Final Site Survey
 8. Guarantees and Warranties
 9. Waste Disposal Documentation
 10. LEED Materials and Matrix
 11. Miscellaneous Record Submittals
- B. The Department of Design and Construction, at the start of construction (kick-off meeting), will furnish to the Contractor at no cost a complete set of Contract Drawings Mylars (reproducible) pertaining to the work to be performed under the Contract. It is the responsibility of the Contractor to modify the Contract Drawings to indicate all changes and corrections, if any, occurring in the work as actually installed. The Contractor is required to furnish all other Mylar (reproducible) drawings, if necessary, such as Addenda Drawings and Supplementary Drawings as may be necessary to indicate all work in detail as actually completed. All professional seals must be blocked out. Title box complete with project title and Design Consultants' names will remain.
- C. Maintenance of Documents and Samples: The Contractor shall maintain, during the progress of the work, an accurate record of the work as actually installed, on Contract Record Drawings, on Mylar (reproducible), in ink. Store record documents and samples in the field office apart from the Contract Documents used for construction. Do not use Project Record Documents for construction purposes. Maintain record documents in good order and in a clean, dry, legible condition. Make documents and samples available at all times for the Resident Engineer's inspections.

The Contractor's attention is particularly directed to the necessity of keeping accurate records of all subsurface and concealed work, so that the Contract Record Drawings contain this information in exact detail and location. Contract Record Drawings shall also show all connections, valves, gates, switches, cut-outs and similar operating equipment.

For projects designated to achieve a LEED rating the Contractor shall receive a copy of the project's LEED scorecard for the purpose of monitoring compliance with the target objectives and to facilitate coordination with the LEED Consultant. The Contractor shall receive periodic updates of this scorecard,



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

Division 01 – DDC STANDARD GENERAL CONDITIONS
SINGLE CONTRACT PROJECTS
Issue Date - June 01, 2013

and is required to submit the final version of the Scorecard at Substantial Completion with other project Record Documents.

1.3 RELATED SECTIONS: include without limitation the following:

- | | | |
|----|------------------|-------------------------------------|
| A. | Section 01 10 00 | SUMMARY |
| B. | Section 01 32 00 | CONSTRUCTION PROGRESS DOCUMENTATION |
| C. | Section 01 32 33 | PHOTOGRAPHIC DOCUMENTATION |
| D. | Section 01 33 00 | SUBMITTAL PROCEDURES |
| E. | Section 01 77 00 | PROJECT CLOSEOUT PROCEDURES |

1.4 DEFINITIONS:

- A. Refer to Article 2 of the Contract for definition of terms, words and expressions used in the General Conditions not otherwise defined herein.
- B. Design Consultant: "Design Consultant" shall mean the entity responsible for providing design services for the Project, including without limitation, preparing the construction documents (drawings and specifications) and providing services in connection with such documents during construction. The entity serving as the "Design Consultant" may be a corporation, firm, partnership, joint venture, individual or combination thereof. Such entity may be either an employee(s) of the City or an entity engaged by the City to provide such services.

1.5 SUBMITTALS:

- A. As-Built Contract Record Drawings: Comply with the following:
1. Progress Submission: As directed by the Resident Engineer, submit progress As-Built Contract Record Drawings at the 50% Construction Completion stage.
 2. Final Submission: Before substantial completion payment, the Contractor shall furnish to the Commissioner one (1) complete set of marked-up Mylar (reproducible) As-Built Contract Record Drawings, in ink indicating all of the work and locations as actually installed, plus one (1) set of paper prints which will be furnished to the sponsoring agency by DDC.
 3. As-Built Contract Record Drawings shall be of the same size as that of the Contract Drawings, with a one (1) inch margin on three (3) sides and a two (2) inch margin on the left side for binding.
 4. Each As-Built Contract Record Drawing shall bear the legend "AS-BUILT CONTRACT RECORD DRAWING" in heavy block lettering, one half (1/2) inch high, and contain the following data:

AS-BUILT CONTRACT RECORD DRAWING

Contractor's Name

Contractor's Address

Subcontractor's Name (where applicable)

Subcontractor's Address

Made by:

Date

Checked by:

Date

Commissioner's Representatives

(Resident Engineer)

DDC

(Plumbing Inspector)

DDC

(Heating & Ventilating Inspector)

DDC

(Electrical Inspector)

DDC



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

5. Record Drawing Title Sheet: The Contractor shall prepare a title sheet, the same size as the Contract Record Drawings, which shall contain the following:
 - a. Heading:
The City of New York
Department of Design and Construction
Division of Public Buildings
 - b. Capital Budget Project Number (FMS ID)
 - c. Name and Location of Project
 - d. Contractor's Name and Address
 - e. Subcontractor's Name and Address (where applicable)
 - f. Record of changes (a caption description of work affected, and the date and number of Change Order or other authorization)
 - g. List of Record Drawings
- B. Record Specifications, Addenda and Change Order: Submit to the Commissioner two (2) copies each of marked-up Record Specifications, Addenda and Change Orders.
- C. Record Product Data: Submit to the Commissioner two (2) sets of Record Product Data.
- D. Record Construction Photographs: Submit to the Commissioner final as-built construction photographs and negatives of the completed work as described in Section 01 32 33, PHOTOGRAPHIC DOCUMENTATION.
- E. Operating and Maintenance Manuals:
 1. Submit three (3) copies each of preliminary manuals to the Resident Engineer for review and approval. The Contractor shall make such corrections, changes and/or additions to the manual until deemed satisfactory by the Resident Engineer. Deliver three (3) copies of the final approved manuals to the Resident Engineer for distribution.
 2. Commissioning: Comply with the requirements of Section 01 91 13, GENERAL COMMISSIONING REQUIREMENTS, as well as the requirements set forth in sections of the Project Specifications, for projects designated for Commissioning. Submit four (4) copies each of data designated to be included in the Commissioning Operation and Maintenance Manual to the Resident Engineer. The Resident Engineer will forward such data to the Commissioning Authority/Agent (CxA) for review and comment. The Contractor shall make such corrections, changes and/or additions to the data until deemed satisfactory and deliver four (4) copies of the final data to the Resident Engineer for use by the Commissioning Authority/Agent (CxA) to prepare the Commissioning Operation and Maintenance Manual.
 - a. Non-Commissioning Data: All remaining data not designated for Commissioning and required as part of Maintenance and Operation Manual shall be prepared and assembled in accordance with the requirements of this section for Operating and Maintenance Manuals.
- F. Final Site Survey: Submit Final Site Survey as described in Section 01 73 00, EXECUTION, in quantities requested by the Commissioner, signed and sealed by a Land Surveyor licensed in the State of New York.
- G. Guarantees and Warranties.
- H. Waste Disposal Documents and Miscellaneous Record Documents.



PART II – PRODUCTS

2.1 CONTRACT RECORD DRAWINGS:

- A. Record Prints: The Contractor shall maintain one set of blue- or black-line white prints as applicable of the Contract Drawings and Shop Drawings. If applicable, the Record Contract Drawings and Shop Drawings shall incorporate the arrangement of the work based on the accepted Master Coordination Drawing(s) as described in Section 01 33 00, SUBMITTAL PROCEDURES.
1. Preparation: The Contractor shall mark Record Prints to show the actual installation where installation varies from that shown originally. Require individual or entity who obtained record data, whether individual or entity is Installer, subcontractor, or similar entity, to prepare the marked-up Record Prints.
 - a. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later.
 - b. Accurately record information in an understandable drawing technique.
 - c. Record data as soon as possible after obtaining it. Record and check the markup before enclosing concealed installations.
 2. Change Orders: All changes from Contract Drawings shall be distinctly encircled and identified by Change Order number correlating to changes listed on the "Title Sheet." The Contractor shall show within the encircled areas the work as actually installed.
- B. Content: Types of items requiring marking include, but are not limited to, the following:
- 1 Dimensional changes to Drawings.
 - 2 Revisions to details shown on Drawings.
 - 3 Depths of foundations below first floor.
 - 4 Locations and depths of underground utilities.
 - 5 Revisions to routing of piping and conduits.
 - 6 Revisions to electrical circuitry.
 - 7 Actual equipment locations.
 - 8 Duct size and routing.
 - 9 Locations of concealed internal utilities.
 - 10 Changes made by Change Order
 - 11 Changes made following Commissioner's written orders.
 - 12 Details not on the original Contract Drawings.
 - 13 Field records for variable and concealed conditions.
 - 14 Record information on the Work that is shown only schematically.
- C. Progress Record Mylar's (reproducible): As directed by the Resident Engineer at 50% construction completion, review marked-up Record Prints with the Resident Engineer and the Design Consultant. When directed by the Resident Engineer transfer progress mark-ups to a full set of Mylar's (reproducible) and submit one blue line or black line record copy to the Resident Engineer. The marked-up Mylar's (reproducible) shall be retained by the contractor for completion of mark-up and final submission.
- D. Final Contract Record Mylar's (reproducible): Immediately before final inspection for Certificate of Substantial Completion, review marked-up Record Prints with the Resident Engineer and the Design Consultant. When authorized, complete mark-up of a full set of corrected Mylar's (reproducible) of the Contract Drawings.
1. Incorporate changes and additional information previously marked on Record Prints. Erase, redraw, and add details and notations where applicable.
 2. Refer instances of uncertainty to Resident Engineer for resolution.
 3. Print the As-Built Contract Drawings and Shop Drawings for use as Record Transparencies as described in Sub-Section 1.5.



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

2.2 RECORD SPECIFICATIONS, ADDENDA AND CHANGE ORDERS:

- A. Preparation: Mark Specifications to indicate the actual product installation where installation varies from that indicated in Specifications, addenda, and contract modifications.
1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
 2. Mark copy with the proprietary name and model number of products, materials, and equipment furnished, including substitutions and product options selected.
 3. Record the name of manufacturer, supplier, Installer, and other information necessary to provide a record of selections made
 4. For each principal product, indicate whether Record Product Data has been submitted in operation and maintenance manuals instead of submitted as Record Product Data.
 5. Note related Change Orders and Record Drawings where applicable.
 6. Upon completion of mark-up, submit two (2) complete copies of the marked-up Record Specifications to the Commissioner.

2.3 RECORD PRODUCT DATA:

- A. Preparation: Mark Product Data to indicate the actual product installation where installation varies substantially from that indicated in Product Data submittal.
1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
 2. Include significant changes in the product delivered to Project site and changes in manufacturer's written instructions for installation.
 3. If possible, a Change Order proposal should include resubmitting updated Product Data. This eliminates the need to mark up the previous submittal.
 4. Note related Change Orders and Record Drawings where applicable.
 5. Upon completion of mark-up submit to the Commissioner two (2) sets of the marked-up Record Product Data.
 6. Where Record Product Data is required as part of Maintenance Manuals, submit marked-up Product Data as an insert in the manual instead of submittal as record Product Data.

2.4 RECORD SAMPLE SUBMITTAL:

- A. Prior to the date of Substantial Completion, the Contractor shall meet with the Resident Engineer at the site to determine which of the Samples maintained during the construction period shall be transmitted to the Commissioner for record purposes.
- B. Comply with the Resident Engineer's instructions for packaging, identification marking and delivery to DDC. Dispose of other samples as specified for disposal of surplus and waste material.

2.5 OPERATING AND MAINTENANCE MANUALS:

- A. The Contractor shall provide preliminary and final versions of Operating and Maintenance Manuals required for those systems, equipment and materials listed in other Sections of the Project Specifications.
- B. Format: Prepare and assemble Operation and Maintenance Manuals in heavy-duty, 3-ring, hardback loose leaf binders in the form of an instructional manual. All binders for each discipline shall be the same color. When multiple binders are used, correlate data into related consistent groupings. Binder front shall contain permanently attached labels displaying the following:



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

1. Heading:
The City of New York
Department of Design and Construction
Division of Public Buildings
 2. Capital Budget Project Number (FMS ID)
 3. Name and Location of Project
 4. Contractor's Name and Address
 5. Subcontractor's Name and Address (where applicable)
 6. Dates of the work covered by the contents of the Project Manual.
 7. Binder spine shall display Project Number (FMS ID) and date of completion.
- C. Organization: Include a section in the directory for each of the following:
1. List of documents
 2. List of systems
 3. List of equipment
 4. Table of contents
- D. Arrange content by systems under Specification Section numbers and sequence of Table of Contents of the Project manual. Provide tabbed flyleaf for each separate product, equipment and/or system/subsystem with typed description of product and major component parts of equipment.
- E. Safety warnings or cautions shall be visibly highlighted within each maintenance procedure. Use of such highlights shall be limited to only critical items and shall not be used in an excessive manner which would reduce their effectiveness.
- F. For each product or system, list names, addresses and telephone numbers of Subcontractors and Suppliers, including local source of supplies and replacement parts. Vendors and Supplier listings are to include names, addresses and telephone numbers, including nearest field service telephone numbers.
- G. Where contents of the manual include any manufacturer's catalog pages, clearly indicate the precise items and options included in the installation and delete all manufacturers' data regarding products not included in the installation.
- H. All material within manuals shall be new. Copies used for prior submittals or used in construction shall not be used.
- I. Submit preliminary and final manual editions to the Commissioner according to the approved progress schedule.
- J. Manuals shall present all technical material to the greatest extent possible, with respect to text, tabular matter and illustrations. Illustrations shall preferably consist of line drawings. All applicable drawings shall be included. If available, color photograph prints may be included.
- K. Preliminary manual editions shall be as technically complete as the final manual edition. All illustrations shall be in final forms.
- L. Final manual editions shall be technically accurate and complete and shall represent all "as-built" systems, pieces of equipment, or materials, which have been accepted by the Commissioner. All illustrations, text and tabular material shall be in final form. All shop drawings shall be included as specified in individual Specification Sections.
- M. Building products, applied materials, and finishes: Include product data, with catalog number, size, composition, and color texture designations. Where applicable, provide information for re-ordering custom manufactured products.
- N. Instructions for care and maintenance: Include manufacturers' recommendations for cleaning agents and methods, and recommended schedule for cleaning and maintenance.



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

- O. Moisture Protection and Weather Exposed Products: Include product data listing applicable reference standards, chemical compositions, and details of installation. Provide recommendations for inspections, maintenance, and repair.
- P. Additional Requirements: Specified in individual Specification Sections.

2.6 DEMONSTRATION AND ORIENTATION DVD:

- A. Non-Commissioned Projects: The Contractor shall submit final version of applicable Demonstration and Orientation DVD recordings in compliance with Section 01 79 00, DEMONSTRATION AND OWNER'S PRE-ACCEPTANCE ORIENTATION.

2.7 GUARANTEES AND WARRANTIES:

- A. SCHEDULE B – Requirements for guarantees and warranties for the Project are set forth in Schedule B, which is included as part of the Addendum.
- B. FORM – For all guarantee requirements set forth in Schedule B, the Contractor shall provide a written guaranty, in the form set forth herein.
- C. Submit fully executed and signed manufacturers' Warranties as listed in the Project Specifications and outlined in Schedule B of the Addendum. Refer to Section 01 77 00, CLOSEOUT PROCEDURES for submittal requirements.



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

Division 01 – DDC STANDARD GENERAL CONDITIONS
SINGLE CONTRACT PROJECTS
Issue Date - June 01, 2013

GUARANTY

DDC PROJECT # _____

PROJECT DESCRIPTION _____

CONTRACT # _____

SPECIFICATION SECTION # AND TITLE _____

GUARANTY TO BE IN EFFECT FROM _____

TO _____

The Contractor hereby guarantees that the work specified under the above section of the aforesaid Contract will be free from defects of material and/or workmanship, for the period indicated above.

The Contractor also guarantees that it will promptly repair, restore, rebuild or replace whichever may be deemed necessary by the City, any or all defective material or workmanship of the aforementioned section, that may appear within the guaranty period and any finished work to which damage may occur because of such defects, to the satisfaction of the City and without any cost or expense to the City.

The Contractor hereby agrees to pay to the City the cost of the repairs or replacements should the City make the same because of the failure of the Contractor to do so.

Contractor: _____

By: _____

Signature of Partner or Corporate Officer

Print Name: _____

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

Notary Public



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

2.8 WASTE DISPOSAL DOCUMENTATION:

- A. Certify and deliver to the Commissioner all documentation including reports, receipts, certificates, records etc. for the collection, handling, storage, classification, testing, transportation, recycling and/or disposal of all Non-Hazardous Construction Waste as required by Section 01 74 19, CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL, and Hazardous Waste as required by other Project Specification Sections. Certify compliance with all applicable governing laws, codes, rules and regulations.

2.9 MISCELLANEOUS RECORD DOCUMENTS:

- A. Refer to other Project Specification Sections for miscellaneous record-keeping requirements and submittals in connection with various construction activities. Prior to Final Acceptance, complete miscellaneous records and place in good order, properly identified and bound or otherwise organized to allow for use and reference.
- B. Submit three (3) copies of each document to the Commissioner or as otherwise directed by the Commissioner.

PART III – EXECUTION

3.1 RECORDING AND MAINTENANCE:

- A. Recording: Maintain one copy of each submittal during the construction period for Contract Record Document purposes. Post changes and modifications to Project Record Documents as they occur; do not wait until the end of Project.
- B. Maintenance of Record Documents and Samples: Store Record Documents and Samples in the field office apart from the Contract Documents used for construction. Do not use Contract Record Documents for construction purposes. Maintain Record Documents in good order and in a clean, dry, legible condition, protected from deterioration and loss. Provide access to the Contract Record Documents for the Resident Engineer's reference during normal working hours.

END OF SECTION 01 79 39



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

Division 01 – DDC STANDARD GENERAL CONDITIONS
SINGLE CONTRACT PROJECTS
Issue Date - June 01, 2013

No Text

CONTRACT RECORD DOCUMENTS
01 78 39- 10



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

SECTION 01 79 00
DEMONSTRATION AND OWNER'S PRE-ACCEPTANCE ORIENTATION

REFER TO THE ADDENDUM FOR APPLICABILITY OF THIS SECTION 01 79 00

PART I – GENERAL

1.1 RELATED DOCUMENTS:

- A. The following documents apply to all required work for the Project: (1) the Contract Drawings, (2) the Specifications, (3) the General Conditions, (4) the Addendum, and (5) the Contract [City of New York Standard Construction Contract].

1.2 SUMMARY:

- A. This Section includes administrative and procedural requirements, when set forth in sections of the Project Specifications, for instructing facility's personnel, including the following:
1. Demonstration of operation of systems, subsystems, and equipment.
 2. Owner's Pre-Acceptance Orientation in operation and maintenance of systems, subsystems, and equipment.
 3. Demonstration and Orientation videotapes. (Non-Commissioned Projects)
- B. The Contractor shall provide the services of equipment manufacturers orientation specialists experienced in the type of equipment to be demonstrated.
- C. Separate Orientation sessions shall be conducted for mechanical operations and maintenance personnel and for electronic and electrical maintenance personnel.
- D. Commissioning: Refer to the Addendum to identify whether this project is to be Commissioned. For Commissioned projects the Contractor shall provide Demonstration and Orientation as described in this section and cooperate with the Commissioning Authority/Agent (CxA) to implement Commissioning requirements as described in Section 01 91 13, GENERAL COMMISSIONING REQUIREMENTS.

1.3 RELATED SECTIONS: include without limitation the following:

- A. Section 01 10 00 SUMMARY
- B. Section 01 33 00 SUBMITTAL PROCEDURES
- C. Section 01 77 00 CLOSEOUT PROCEDURES
- D. Section 01 78 39 CONTRACT RECORD DOCUMENTS
- E. Section 01 91 13 GENERAL COMMISSIONING REQUIREMENTS
- F. Specific requirements for demonstration and orientation indicated in other sections of the Project Specifications

1.4 DEFINITIONS:

- A. Refer to Article 2 of the Contract for definition of terms, words and expressions used in the General Conditions not otherwise defined herein.



- B. Design Consultant: "Design Consultant" shall mean the entity responsible for providing design services for the Project, including without limitation, preparing the construction documents (drawings and specifications) and providing services in connection with such documents during construction. The entity serving as the "Design Consultant" may be a corporation, firm, partnership, joint venture, individual or combination thereof. Such entity may be either an employee(s) of the City or an entity engaged by the City to provide such services.

1.5 SUBMITTALS:

- A. Instruction Program: Submit three (3) copies of outline of instructional program for demonstration and orientation, including a schedule of proposed dates, times, length of instruction time, and instructors' names for each orientation module to the Commissioner for approval no less than thirty (30) days prior to the date the proposed orientation is to take place. Include learning objectives and outline for each orientation module.
1. At completion of orientation, submit three (3) complete orientation manual(s) and three (3) applicable DVD recording(s) to the Commissioner for the facility's and City's use.
- B. Qualification Data: For facilitator, instructor and Videographer.
- C. Attendance Record: For each orientation module, submit list of participants and length of instruction time.
- D. Evaluations: For each participant and for each orientation module, submit results and documentation of performance-based test.
- E. Submit all final orientation material to the Resident Engineer a minimum of fourteen (14) days prior to the scheduled orientation.
- F. Demonstration and Orientation Recordings:
1. Non-Commissioned Projects:
- a. The Contractor shall submit to the Commissioner three (3) copies of Demonstration and Orientation DVD (Digital Video Disk) recordings within seven (7) days of end of each orientation module.
- b. Identification: On each copy, provide an applied label with the following information:
- 1) Project Contract I.D. Number
 - 2) Project Contract Name
 - 3) Name of Contractor
 - 4) Name of Subcontractor as applicable
 - 5) Name of Design Consultant
 - 6) Name of Construction Manager as applicable
 - 7) Date recorded.
 - 8) Description of vantage point, indicating location, direction (by compass point), and elevation or story of construction.
 - 9) Table of Contents including list of systems covered.
- c. Transcript: Prepared on 8-1/2-by-11-inch paper, hole-punched and bound in heavy-duty, 3-ring, vinyl-covered binders. Mark appropriate identification on front and spine of each binder. Include a cover sheet with same label information as the corresponding DVD recording. Include name of Project and date of recording on each page.
2. Commissioned Projects:
- a. Demonstration and Orientation DVD recordings for Commissioned projects will be recorded by the Commissioning Authority/Agent (CxA) under separate contract with the City of New



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

York. The Contractor performing Demonstration and Orientation shall cooperate with the CxA in the recording of each Demonstration and Orientation module.

1.6 QUALITY ASSURANCE:

- A. Facilitator Qualifications: A firm or individual experienced in orientation or educating maintenance personnel in an orientation program similar in content and extent to that indicated for this Project.
- B. Instructor Qualifications: A factory-authorized service representative, complying with requirements in Section 01 40 00, QUALITY REQUIREMENTS, experienced in operation and maintenance procedures and orientation.
- C. Videographer Qualifications: A professional Videographer who has experience with orientation and construction projects.
- D. Pre-instruction Conference: Schedule with the Resident Engineer a conference at Project site to comply with requirements in Section 01 31 00, PROJECT MANAGEMENT AND COORDINATION. Review methods and procedures related to demonstration and orientation including, but not limited to, the following:
 - 1. Inspect and discuss locations and other facilities required for instruction.
 - 2. Review and finalize instruction schedule and verify availability of educational materials, instructors' personnel, audiovisual equipment, and facilities needed to avoid delays.
 - 3. Review required content of instruction.
 - 4. For instruction that must occur outside, review weather and forecasted weather conditions and procedures to follow if conditions are unfavorable.

1.7 COORDINATION:

- A. Coordinate instruction schedule with the Resident Engineer and facility's operations. Adjust schedule as required to minimize disrupting facility's operations.
- B. Coordinate instructors, including providing notification of dates, times, length of instruction time, and course content.
- C. Coordinate content of orientation modules with content of approved emergency, operation, and maintenance manuals. Do not submit instruction program until operation and maintenance data has been reviewed and approved by the Commissioner.

PART II – PRODUCTS

2.1 INSTRUCTION PROGRAM:

- A. Program Structure: Develop an instruction program that includes individual orientation modules for each system and equipment not part of a system, as specified and required by individual Specification Sections.
- B. Orientation Modules: Develop a learning objective and teaching outline for each module. Include a description of specific skills and knowledge that participant is expected to master. For each module, include instruction for the following:
 - 1. Basis of System Design, Operational Requirements, and Criteria: Include the following:
 - a. System, subsystem, and equipment descriptions.
 - b. Performance and design criteria if Contractor is delegated design responsibility.
 - c. Operating standards.



- d. Regulatory requirements.
 - e. Equipment function including auxiliary equipment and systems.
 - f. Operating characteristics.
 - g. Limiting conditions.
 - h. Performance curves.
2. Documentation: Review the following items in detail:
 - a. Emergency manuals.
 - b. Operations manuals.
 - c. Maintenance manuals.
 - d. Project Record Documents.
 - e. Identification systems.
 - f. Warranties
3. Emergencies: Include the following, as applicable:
 - a. Instructions on meaning of warnings, trouble indications, and error messages.
 - b. Instructions on stopping.
 - c. Shutdown instructions for each type of emergency.
 - d. Operating instructions for conditions outside of normal operating limits.
 - e. Sequences for electric or electronic systems.
 - f. Special operating instructions and procedures.
4. Operations: Include the following, as applicable:
 - a. Startup procedures.
 - b. Equipment or system break-in procedures.
 - c. Routine and normal operating instructions.
 - d. Regulation and control procedures.
 - e. Control sequences.
 - f. Safety procedures.
 - g. Instructions on stopping.
 - h. Normal shutdown instructions.
 - i. Operating procedures for emergencies.
 - j. Operating procedures for system, subsystem, or equipment failure.
 - k. Seasonal and weekend operating instructions.
 - l. Required sequences for electric or electronic systems.
 - m. Special operating instructions and procedures.
5. Adjustments: Include the following:
 - a. Alignments.
 - b. Checking adjustments.
 - c. Noise and vibration adjustments.
 - d. Economy and efficiency adjustments.
6. Troubleshooting: Include the following:
 - a. Diagnostic instructions.
 - b. Test and inspection procedures.
7. Maintenance: Include the following:
 - a. Inspection procedures.
 - b. Types of cleaning agents to be used and methods of cleaning.
 - c. List of cleaning agents and methods of cleaning detrimental to product.
 - d. Procedures for routine cleaning



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

- e. Procedures for preventive maintenance.
 - f. Procedures for routine maintenance.
 - g. Instruction on use of special tools.
 - h. Housekeeping practices
8. Repairs: Include the following:
- a. Diagnosis instructions.
 - b. Repair instructions.
 - c. Disassembly; component removal, repair, and replacement; and reassembly instructions.
 - d. Instructions for identifying parts and components.
 - e. Review of spare parts needed for operation and maintenance.

PART III – EXECUTION

3.1 INSTRUCTION:

- A. Facilitator: Engage a qualified facilitator to prepare instruction program and training modules, to coordinate instructors, and to coordinate between Contractor and the Resident Engineer for the number of participants, instruction times, and location.
- B. The Contractor shall engage qualified instructors to instruct facility's personnel to adjust, operate, and maintain systems, subsystems, and equipment not part of a system.
- C. Scheduling: Schedule instruction with the Resident Engineer at mutually agreed times. For equipment that requires seasonal operation, provide similar instruction at start of each season.
 - 1. Schedule orientation with the Resident Engineer with at least fourteen (14) days' advance notice.
- D. Evaluation: At conclusion of each orientation module, assess and document each participant's mastery of module(s) by use of an oral a written or a demonstration performance-based test.
- E. Cleanup: Collect and remove used and leftover educational materials from project site. Remove instructional equipment. Restore systems and equipment to condition existing before initial orientation use.

**REFER TO THE ADDENDUM FOR THE APPLICABILITY OF SUB-SECTION 3.2.A or
SUB-SECTION 3.2.B**

3.2 DEMONSTRATION AND ORIENTATION RECORDINGS:

- A. Non-Commissioned projects:
 - 1. The Contractor shall engage a qualified commercial Videographer to record demonstration and orientation sessions. Record each orientation module separately. Include classroom instructions and demonstrations, board diagrams, and other visual aids, but not student practice.
 - 2. At beginning of each orientation module, record each chart containing learning objective and lesson outline.
 - 3. All recordings must be close captioned.
 - 4. Recording Format: Provide high-quality DVD (Digital Video Disk) format.



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

Division 01 – DDC STANDARD GENERAL CONDITIONS
SINGLE CONTRACT PROJECTS
Issue Date - June 01, 2013

5. Recording: Mount camera on tripod before starting recording, unless otherwise necessary to show area of demonstration and orientation. Display continuous running time.
 6. Narration: Describe scenes on the recording by audio narration by microphone while recording or by dubbing audio narration off-site after. Include description of items being viewed. Describe vantage point, indicating location, direction (by compass point), and elevation or story of construction.
 7. Transcript: Provide a typewritten transcript of the narration. Display images and running time captured from opposite the corresponding narration segment.
- B. Commissioned Projects:
1. The Commissioning Authority/Agent (CxA) under separate contract with the City of New York will be responsible for DVD recording of Demonstration and Orientation sessions as described in Section 01 91 13, GENERAL COMMISSIONING REQUIREMENTS.

END OF SECTION 01 79 00



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

SECTION 01 81 13
SUSTAINABLE DESIGN REQUIREMENTS FOR LEED BUILDINGS

REFER TO THE ADDENDUM FOR APPLICABILITY OF THIS SECTION 01 81 13

PART I – GENERAL

1.1 RELATED DOCUMENTS:

- A. The following documents apply to all required work for the Project: (1) the Contract Drawings, (2) the Specifications, (3) the General Conditions, (4) the Addendum, and (5) the Contract [City of New York Standard Construction Contract].

1.2 SUMMARY:

A. LEED BUILDING - GENERAL REQUIREMENTS:

The City of New York is committed to implementing good environmental practices and procedures which include achieving a LEED™ Green Building rating. Specific project requirements related to this goal are listed in the applicable paragraphs of this section of the General Conditions. The Contractor shall ensure that these requirements as defined in the sections below and in related sections of the Contract Documents, are implemented to the fullest extent. Substitutions, or other changes to the work proposed by the Contractor or their Subcontractors, shall not be allowed if such changes compromise the stated LEED BUILDING criteria.

B. This Section includes:

1. Definitions
2. LEED Provisions
3. LEED Building Submittals
4. LEED Building Submittal Requirements
5. LEED Action Plan

1.3 RELATED SECTIONS: Include without limitation the following:

- | | | |
|----|---------------------|---|
| A. | Section 01 74 19 | CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL |
| B. | Section 01 81 13.13 | VOLATILE ORGANIC COMPOUND (VOC) LIMITS FOR ADHESIVES, SEALANTS, PAINTS AND COATINGS |
| C. | Section 01 81 19 | INDOOR AIR QUALITY REQUIREMENTS FOR LEED BUILDINGS |
| D. | Section 01 91 13 | GENERAL COMMISSIONING REQUIREMENTS |

1.4 DEFINITIONS:

- A. Refer to Article 2 of the Contract for definition of terms, words and expressions used in the General Conditions not otherwise defined herein.
- B. Agrifiber Products: Products derived from recovered agricultural waste fiber from sources such as cereal straw, sugarcane bagasse, sunflower husk, walnut shells, coconut husks, and agricultural prunings, processed and mixed with resins to produce panels with characteristics similar to composite wood.



- C. Composite Wood: Products composed of wood or plant particles or fibers bonded by a synthetic resin or binder to produce panels such as plywood, particleboard, and medium density fiberboard (MDF). Does not include hardboard, structural panels, glued laminated timber, prefabricated wood I-joists, or finger-jointed lumber.
- D. Design Consultant: "Design Consultant" shall mean the entity responsible for providing design services for the Project, including without limitation, preparing the construction documents (drawings and specifications) and providing services in connection with such documents during construction. The entity serving as the "Design Consultant" may be a corporation, firm, partnership, joint venture, individual or combination thereof. Such entity may be either an employee(s) of the City or an entity engaged by the City to provide such services.
- E. Forest Stewardship Council (FSC) Certified Wood: Wood-based materials and products certified in accordance with the Forest Stewardship Council's principles and criteria.
- F. LEED: The Leadership in Energy & Environmental Design rating system developed by the United States Green Building Council.
- G. Rapidly Renewable Materials: Materials made from agricultural products that are typically harvested within a ten-year or shorter cycle. Rapidly renewable materials include products made from bamboo, cotton, flax, jute, straw, sunflower seed hulls, vegetable oils, or wool.
- H. Regionally Manufactured Materials: Materials that are manufactured within a radius of 500 miles from the Project location. Manufacturing refers to the final assembly of components into the building product that is installed at the Project site.
- I. Regionally Extracted, Harvested, or Recovered Materials: Materials which are extracted, harvested, or recovered and manufactured within a radius of 500 miles from the Project site.
- J. Recycled Content: The percentage by weight of constituents that have been recovered or otherwise diverted from the solid waste stream, either during the manufacturing process (pre-consumer), or after consumer use (post-consumer).
 - 1. Spills and scraps from the original manufacturing process that are combined with other constituents after a minimal amount of reprocessing for use in further production of the same product are not recycled materials.
 - 2. Discarded materials from one manufacturing process that are used as constituents in another manufacturing process except mechanical and electrical components are pre-consumer recycled materials.
 - 3. "Pre-consumer" may also be referred to as "post-industrial".
- K. Solar Reflectance Index (SRI): A measure of a material's ability to reflect solar heat, as shown by a small temperature rise. It is defined so that a standard black (reflectance 0.05, emittance 0.90) is equal to 0, and a standard white (reflectance 0.80, emittance of 0.90) is equal to 100.
- L. Volatile Organic Compound (VOC): Any compound of carbon (excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate) which vaporizes (becomes a gas) and participates in atmospheric photochemical reactions, as specified in Part 51.00 of Chapter 40 of the U.S. Code of Federal Regulations, at normal room temperatures. For the purposes of this specification, formaldehyde and acetaldehyde are considered to be VOCs.



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

1.5 LEED PROVISIONS:

- A. Refer to the Addendum for the LEED rating to be achieved for this project. The provisions to achieve this LEED rating are integrated within the project construction documents and specifications. The Contractor is specifically directed to the "LEED BUILDING Performance Criteria" and "LEED BUILDING Submittals" sections within the contract specification. Additional LEED requirements are met through aspects of the project design, including material and equipment selections, which may not be specifically identified as LEED BUILDING requirements. Compliance with the requirements needed to obtain LEED prerequisites and credits will be used as one criterion to evaluate substitution requests.

1.6 LEED BUILDING SUBMITTALS:

- A. Scope: LEED BUILDING submittals are required for all installed materials included in General Construction work. LEED BUILDING Submittals are only required for field-applied adhesives, sealants, paints and coatings included in Plumbing, Mechanical and Electrical work. Submit all required LEED BUILDING submittals in accordance with Section 01 33 00, SUBMITTAL PROCEDURES.
- B. Applicability: The extent of the LEED BUILDING Submittals varies depending on the specification section. Applicable LEED BUILDING Submittals are listed under the "LEED BUILDING Submittals" heading in each specification section. The detailed requirements for the LEED BUILDING Submittals are defined in Item C below.
- C. Detailed Requirements: Sub-Sections 1.6 C.1 through 1.6 C.3 below defines the information and documents to be provided for each type of LEED BUILDING Submittal as identified in the LEED Submittal Requirements of each specification section:
1. ENVIRONMENTAL BUILDING MATERIALS CERTIFICATION FORM (EBMCF)[GHI]: Information to be supplied for this form (blank sample copy attached at end of this Section to be modified as appropriate to the project) shall include some or all of the following items, as identified in the LEED Submittal Requirements of each specification section:
 - a. Cost breakdowns for the materials included in the contractor or sub-contractor's scope of work. Cost reporting shall include itemized material costs (excluding the contractor's labor, equipment, overhead and profit).
 - b. The percentages (by weight) of post-consumer and/or post-industrial recycled content in the supplied product(s).
 1. For each product with recycled content, also indicate the total recycled content value ($\frac{1}{2} \times \text{pre-consumer percentage} \times \text{product value} + 1 \times \text{post-consumer percentage} \times \text{product value} = \text{total recycled content value}$).
 2. See additional requirements for concrete below.
 - c. Identification (Yes/No) of materials manufactured within 500 miles of the project site AND containing raw materials harvested or extracted within 500 miles of the project site.
 - 1) Indicate the percentage by weight, relative to the total weight of the product that meets these criteria.
 - 2) Indicate the point of harvest/extraction/recovery of regional raw materials, the point of final assembly of regional manufactured products, and the distance from each point to the project site.
 - d. Volatile Organic Compound (VOC) content of all field-applied adhesives, sealants, paints, and coatings, listed in grams/liter or lbs./gallon, less water.
 - 1) For detailed requirements refer to Section 01 81 13.13 VOC LIMITS FOR ADHESIVES, SEALANTS, PAINTS AND COATINGS.
 - e. The amount of "Forest Stewardship Council (FSC) Certified" wood products if used in the Project.
 - 1) Record only new FSC-certified wood products. Do not record reclaimed, salvaged, or recycled FSC-certified wood products.



- 2) Reclaimed, salvaged, or recycled FSC-certified wood may be recorded as post-consumer recycled content.
 - f. The amount of Rapidly Renewable materials if used in the Project.
 - 1) Indicate the type of rapidly renewable material used, and the percentage by weight, relative to the total weight of the product, that consists of rapidly renewable material.
 - g. The percentage (by weight), relative to the total weight of cementitious materials, of supplementary cementitious materials or pozzolans such as fly ash used in each concrete mix used in the Project.
 - 1) For each concrete mix, provide a complete breakdown of all components, by weight and by cost.
 - h. Identification (Yes/No) of composite wood or agrifiber products used in the project that are free of added urea-added formaldehyde resins.
 - i. Identification (Yes/No) of flooring products used in the project that have Carpet and Rug Institute (CRI) Green Label or Green Label Plus certification, or Resilient Floor Covering Institute FloorScore certification.
 - 1) Untreated solid wood flooring, and mineral-based flooring products such as tile, masonry, terrazzo, and cut stone that have no organic-based coatings or sealants, are excluded from this requirement.
 - j. The EBMCF shall record the above information only for those materials or products permanently installed in the project. The EBMCF shall record VOC content, composite and agrifiber products, and CRI or FloorScore ratings only for those materials or products permanently installed within the weather barrier of the LEED building.
2. **EBMCF BACK-UP DOCUMENTATION:** These documents are used to validate the information provided on the EBMCF (except cost data). For each material listed on the EBMCF, provide documentation to certify the material's LEED BUILDING attributes, as applicable:
- a. **RECYCLED CONTENT:** Provide published product literature or letter of certification on the manufacturer's letterhead certifying the amounts of post-consumer and/or post-industrial content.
 - b. **REGIONAL MANUFACTURING AND REGIONAL RAW MATERIALS (WITHIN 500 MILES):** Provide published product literature or letter of certification on the manufacturer's letterhead indicating the city/state where the manufacturing plant is located, where each of the raw materials in the product were extracted, harvested or recovered and the distance in miles from the project site.
 - 1) If only some of the raw materials for a particular product or assembly originate within 500 miles of the project site, provide the percentage (by weight) that these materials comprise in the complete product.
 - c. **VOC CONTENT:** Provide Material Safety Data Sheets (MSDS) certifying the Volatile Organic Compound (VOC) content of the adhesive, sealant, paint, or coating products. VOC content is to be reported in grams/liter or lbs./gallon, less water. If the MSDS does not show the product's VOC content, this information must be provided through other published product literature from the manufacturer, or stated in a letter of certification from the product manufacturer on the manufacturer's letterhead.
 - d. **RAPIDLY RENEWABLE MATERIALS:** If used in the project, provide published literature or letter of certification on the manufacturer's letterhead certifying the percentage of each product that is rapidly renewable (by weight).
3. **PRODUCT CUT SHEETS:** Provide product cut sheets with the Contractor's or sub-contractor's stamp, confirming that the submitted products are the products installed in the Project.
4. **CRI GREEN LABEL PLUS CERTIFICATION:** For carpets and carpet cushions, provide published product literature or letter from the manufacturer (on the manufacturer's letterhead) verifying that the products comply with the "Green Label Plus" IAQ testing program of the Carpet and Rug Institute of Dalton, GA.



5. **CERTIFICATION OF COMPOSITE WOOD OR AGRIFIBER RESINS:** For all composite wood, engineered wood and agrifiber products (including plywood, particleboard, and medium density fiberboard), provide published product literature or letter from the manufacturer (on the manufacturer's letterhead) verifying that the products do not contain added urea-formaldehyde resins.
6. **CERTIFICATION OF COMPOSITE WOOD OR AGRIFIBER LAMINATING ADHESIVES:** For all laminating adhesives used with composite wood, engineered wood and agrifiber products (e.g., adhesives used to laminate wood veneers to an engineered wood substrate), provide published product literature or letter from the manufacturer (on the manufacturer's letterhead) verifying that the adhesive products do not contain urea-formaldehyde.
7. **FSC-CERTIFIED WOOD:**
 - a. If used in the project, provide chain of custody documents and copies of invoices regarding wood products, including whether or not such wood product is FSC-certified.
 - b. If used in the project, for assemblies, provide the percentage (by cost and by weight) of the assembly that is FSC-certified wood.
 - c. If used in the project, for assemblies, provide published product literature or letter from the manufacturer (on the manufacturer's letterhead) verifying the percentage that is FSC-certified wood.
8. **GREEN SEAL COMPLIANCE:** Provide published product literature or letter from the manufacturer (on the manufacturer's letterhead) verifying that the following product types comply with the VOC limits and chemical component restrictions developed by the Green Seal organization of Washington, DC:
 - a. Interior Architectural Paints and Coatings: refer to Green Seal standard GS-11 (1st edition, May 1993)
 - b. Anti-corrosive and Anti-rust paints: refer to Green Seal standard GC-03 (2nd Edition, January 1997)
 - c. Aerosol Adhesives: refer to Green Seal standard GS-36 (1st edition, October 2000)
9. **HIGH ALBEDO PAVING AND WALKWAY MATERIALS:** For paving and walkway materials made from concrete or brick provide published product literature or letter from the manufacturer (on the manufacturer's letterhead) verifying a minimum Solar Reflectance Index (SRI) value of 29. SRI values shall be calculated according to ASTM E 980. Reflectance shall be measured according to ASTM E 903, ASTM E 1918, or ASTM C 1549. Emittance shall be measured according to ASTM E 408 or ASTM C 1371.
10. **HIGH ALBEDO ROOFING MATERIALS:** For exposed roofing membranes, pavers, and ballast products, provide published product literature or letter from the manufacturer (on the manufacturer's letterhead) verifying the following minimum Solar Reflectance Index (SRI) values:
 - a. 78 for low-sloped roofing applications (slope \leq 2:12)
 - b. 29 for steep-sloped roofing applications (slope $>$ 2:12)

SRI values shall be calculated according to ASTM E 980. Reflectance shall be measured according to ASTM E 903, ASTM E 1918, or ASTM C 1549. Emittance shall be measured according to ASTM E 408 or ASTM C 1371.

Vegetated roof surfaces are exempt from the SRI criteria.
11. **LOW MERCURY LAMPS:** For all fluorescent, compact fluorescent, and HID lamps installed in the project, provide published product literature or letter from the manufacturer (on the manufacturer's letterhead) verifying:
 - a. The mercury content or content range per lamp in milligrams or picograms;
 - b. The design light output per lamp (light at 40% of a lamp's useful life) in lumens; and
 - c. The rated average life of the lamp in hours.



In addition, provide the total number of each lamp type installed in the project.

12. **FLOORSCORE CERTIFICATION:** For all hard surface flooring, including vinyl, linoleum, laminate flooring, wood flooring, ceramic flooring, rubber flooring, and wall base, provide published product literature or letter from the manufacturer (on the manufacturer's letterhead) verifying that the products comply with the current FloorScore standard requirements.
13. **CONCRETE:** Provide concrete mix design for each mix, designated by a distinct identifying code or number and signed by a Professional Engineer licensed in the state in which the concrete manufacturer or supplier is located.
14. **INTERIOR LIGHTING FIXTURES:** For each lighting fixture type installed within the building's weather barrier, provide manufacturer's cut sheets indicating the following:
 - a. Fixture power in watts.
 - b. Initial lamp lumens.
 - c. Photometric distribution data.
 - d. Dimming capability, in range of percentages.
15. **EXTERIOR LIGHTING FIXTURES:** For each lighting fixture type installed on site, provide manufacturer's cut sheets indicating the following:
 - a. Fixture power in watts.
 - b. Initial lamp lumens.
 - c. Photometric distribution data.
 - d. Range of field adjustability, if any.
 - e. Warranty of suitability for exterior use.
16. **ALTERNATIVE TRANSPORTATION:** Provide manufacturer's cut sheets and/or shop drawings for the following items installed on site:
 - a. Bike racks, including total number of bicycle slots provided.
 - b. Signage indicating parking spaces reserved for electric or low-emitting vehicles and for carpools/vanpools, including total number of signs.
17. **WATER CONSERVING FIXTURES:** For all water consuming plumbing fixtures and fittings, provide manufacturer's cut sheets showing maximum flow rates and/or flush rates.
18. **ENERGY SAVING APPLIANCES:** Provide manufacturer's cut sheets and published product literature or letter from the manufacturer (on the manufacturer's letterhead) verifying the product's rating under the U.S. EPA/DOE Energy Star program, for all of the following:
 - a. Appliances (i.e., refrigerators, dishwashers, microwave ovens, televisions, clothes washers, clothes dryers, chilled water dispensers).
 - b. Office equipment (i.e., copy machines, fax machines, plotters/printers, scanners, binding and publishing equipment).
 - c. Electronics (i.e., servers, desktop computers, computer monitor displays, laptop computers, network equipment).
 - d. Commercial food service equipment
19. **GLAZING:** For glazing in any windows, doors, storefront and window wall systems, curtainwall systems, skylights, and partitions, provide manufacturer's cut sheets indicating the following:
 - a. Glazed area.
 - b. Visible light transmittance.
 - c. Solar heat gain coefficient.
 - d. Fenestration assembly u-factor.
20. **VENTILATION:** Provide manufacturer's cut sheets for the following:
 - a. Carbon dioxide monitoring systems, if any, installed to measure outside air delivery.
 - b. Air filters: for detailed requirements refer to Section 01 81 19 INDOOR AIR QUALITY REQUIREMENTS.
21. **REFRIGERATION:** For all refrigeration equipment, provide manufacturer's cut sheets indicating the following:
 - a. Equipment type.



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

- b. Equipment life. Default values specified by the 2007 ASHRAE Applications Handbook will be used unless otherwise demonstrated by the manufacturer's guarantee and an equivalent long-term service contract.
- c. Refrigerant type.
- d. Refrigerant charge in pounds of refrigerant per ton of gross cooling capacity.
- e. Tested refrigerant leakage rate, in percent per year. A default rate of 2% will be used unless otherwise demonstrated by test data.
- f. Tested end-of-life refrigerant loss, in percent. A default rate of 10% will be used unless otherwise demonstrated by test data.

1.7 LEED BUILDING SUBMITTAL REQUIREMENTS:

- A. The LEED BUILDING submittal information shall be assembled into one package per specification section(s) (or per subcontractor), and submitted in accordance with Section 01 33 00, SUBMITTAL PROCEDURES. Incomplete or inaccurate LEED BUILDING submittals may be used as the basis for rejecting the submittals of products or assemblies.

1.8 LEED ACTION PLANS:

- A. Construction Waste Management Plan- Refer to Section 01 74 19, Construction Waste Management and Disposal for detailed submittal requirements.
- B. Construction IAQ Management Plan- Refer to Section 01 81 19, Indoor Air Quality Requirements for LEED Buildings, for detailed submittal requirements.
- C. Erosion and Sedimentation Control Plan:
 - 1. The Plan shall be in accordance with the New York State Department of Environmental Conservation (NYSDEC) or the 2003 EPA Construction General Permit, whichever is more stringent.
 - 2. The Plan shall be submitted in accordance with Section 01 33 00, SUBMITTAL PROCEDURES.
 - 3. Detailed requirements: ESC Plan
 - a. Include the Stormwater Pollution Prevention Plan, if required.
 - b. Identify the party responsible for Plan monitoring and documentation. The party must be regularly on site.
 - c. Describe all site work that will be implemented on the project.
 - d. Provide site plan with location of ESC measures, including, but not limited to, stormwater quantity controls, stormwater quality controls, stabilized construction entrances, washdown areas, and inlet/catch basin protection.
 - e. Describe the inspection and maintenance of the ESC measures. Provide a construction schedule indicating weekly site review.
 - f. Describe reporting and documentation measures.
 - 4. Detailed requirements: ESC Measures
 - 5. Submittal requirements: ESC Tracking Log
 - a. Note date of major rain events, describe damage, describe any repairs or maintenance performed, and note responsible party.
 - b. Note date and findings of weekly site review, describe any repairs or maintenance performed, and note responsible party.
 - c. Submit monthly.
 - 6. Implementation
 - a. The Contractor shall implement the ESC Plan, coordinate the Plan with all affected trades, and designate one individual as the Erosion and Sedimentation Control Representative, who



- will be responsible for communicating the progress of the Plan with the Commissioner on a regular basis, and for assembling the required LEED documentation.
- b. The Contractor shall be responsible for the provision, maintenance, and repair of all ESC measures.
 - c. Demonstration. The Contractor shall provide on-site instruction of proper construction practices required to prevent erosion and sedimentation.
 - d. Meetings. Urgent or ongoing ESC issues shall be discussed at weekly on-site job meetings.

1.9 QUALITY ASSURANCE:

- A. The Contractor shall implement all LEED Action Plans, coordinate the Plans and LEED Building Submittals with all affected trades, and designate one individual as the Sustainable Construction Representative at no additional cost to the City of New York, who will be responsible for communicating the progress of LEED activities with the Commissioner on a regular basis, and for assembling the required LEED documentation.
- B. Responsibilities of Contractor's Subcontractors: The Contractor shall be responsible for his/her subcontractors complying with the LEED Action Plans and for providing required LEED documentation as required for the project.
- C. Distribution and Compilation: The Contractor shall be responsible for distributing the EBMCF and any other forms or templates required for the subcontractors to record LEED documentation. The Contractor shall also be responsible for collecting and compiling EBMCF information into packages as described in Section 01 33 00 SUBMITTAL PROCEDURES.
- D. Meetings: Sustainable design and construction issues shall be discussed at the following meetings:
 - 1. Demolition kick-off meeting
 - 2. Construction kick-off meeting
 - 3. Construction kick-off meeting for LEED (independent meeting)
 - 4. Weekly job-site progress and coordination meetings
 - 5. Closeout meeting

PART II – PRODUCTS (Not Used)

PART III – EXECUTION (Not Used)

END OF SECTION 01 81 13



ENVIRONMENTAL BUILDING MATERIALS CERTIFICATION FORM

Date: _____

Project Name: _____

Project I.D.: _____

Project Location: _____

Contractor Name: _____

Contractor Contact: _____

Telephone Number: _____

[illegible]

Does not include labor or equipment costs associated with installation.

Material Cost: As it appears on the manufacturer's or distributor's invoice to the contractor or subcontractor. Does not include labor or equipment costs associated with the recycling process from which they are recovered are not considered Pre-Consumer Recycled Content.

finished product. Scrap raw materials that can be reused in the same manufacturing process from which they are recovered are not considered to be consumer waste. Consumer waste (e.g., empty plastic bottles) and has been diverted from landfill and incorporated into a finished product.

3 Post-Consumer Recycled Content: Material or product that has served its intended consumer use (e.g., an empty plastic bottle) and has been diverted from landfill and incorporated into a finished product.

⁴ Regional: Refers to a material/product that is BOTH extracted AND manufactured within 500 miles of the Project site. Record this information in the Regional column. Resources from which the raw resources used in a building product are extracted, harvested, or recovered. Record this information in the Regional column.

Extraction: Refers to the location from which the law resources used in a building product are extracted (may refer to a building product that is furnished and installed by the Contractor).

⁶ **Manufacture:** Refers to the location of the final assembly of components into a building product that is furnished and installed by the contractor.

7 Rapidly Renewable: Refers to materials/products derived from agricultural products that are typically harvested within a ten-year or shorter cycle. Reported in grams/liter or lbs/gallon. less water.

^a VOC Content: The quantity of volatile organic compounds contained in adhesives, sealants, paints and architectural coatings. Reported in grams per liter of dry film. ^b Floorings: For carpet, indicate Carpet and Rug Institute (CRI) Green Label Plus certification. For all flooring except unfinished/unreated wood and mineral-based floorings, indicate Qualified Floor Covering Institute FloorScore rating. VOC limits for adhesives, sealants, etc. still apply.

flooring (tile, masonry, terrazzo, cut stone) without organic-based coatings or sealants, indicate Resilient Floor Covering Institute Floor Score rating. VOC limits for adhesives, sealants, and construction applications are provided. Resins or binders with added urea formaldehyde are prohibited.

¹⁰Added Urea Formaldehyde: Applies to composite wood and aggrifiber products only (plywood, particleboard, MFC, etc.). Certification from the Forest Stewardship Council. This column is only applicable to wood products.

* Applies only to materials/products installed within the weather barrier.

Contractor Certification: I, _____ a duly authorized representative of _____ (the Contractor) hereby certify that the material information contained herein is an accurate representation of the material qualifications to be provided by the Contractor as components of the final building construction. Furthermore, I understand that any change in such qualifications during the purchasing period will require prior written approval from the Commissioner.

Signature of Authorized Representative: _____ Date: _____

No Text



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

SECTION 01 81 13.13

**VOLATILE ORGANIC COMPOUND (VOC) LIMITS FOR ADHESIVES, SEALANTS, PAINTS AND COATINGS FOR
LEED BUILDINGS**

REFER TO THE ADDENDUM FOR APPLICABILITY OF THIS SECTION 01 81 13.13

PART I – GENERAL

1.1 RELATED DOCUMENTS:

- A. The following documents apply to all required work for the Project: (1) the Contract Drawings, (2) the Specifications, (3) the General Conditions, (4) the Addendum, and (5) the Contract [City of New York Standard Construction Contract].

1.2 SUMMARY:

- A. This Section includes requirements for volatile organic compound (VOC) content in adhesives, sealants, paints and coatings used for the project.
- B. All sections in the Project Specifications with adhesives, sealant or sealant primer applications, paints and coatings shall follow all requirements of this section. In the event of any conflict or inconsistency between this section and the Specifications regarding adhesives, sealant or sealant applications, paints and coatings, the requirements set forth in this Section shall prevail.
- C. This Section includes:
1. General Requirements
 2. References
 3. VOC Requirements for Interior Adhesives
 4. VOC Requirements for Interior Sealants
 5. VOC requirements for Interior Paints
 6. VOC requirements for Interior Coatings
 7. Submittals

1.3 RELATED SECTIONS: Include without limitation the following:

- | | | |
|----|------------------|--|
| A. | Section 01 10 00 | SUMMARY |
| B. | Section 01 31 00 | PROJECT MANAGEMENT AND COORDINATION |
| C. | Section 01 32 00 | CONSTRUCTION PROGRESS DOCUMENTATION |
| D. | Section 01 33 00 | SUBMITTAL PROCEDURES |
| E. | Section 01 73 00 | EXECUTION |
| F. | Section 01 77 00 | CLOSEOUT PROCEDURES |
| G. | Section 01 78 39 | CONTRACT RECORD DOCUMENTS |
| H. | Section 01 81 13 | SUSTAINABLE DESIGN REQUIREMENTS FOR LEED BUILDINGS |
| I. | Section 01 81 19 | INDOOR AIR QUALITY FOR LEED BUILDINGS |

1.4 DEFINITIONS:

- A. **ADHESIVE:** Any substance used to bond one surface to another by attachment. Includes adhesive primers and adhesive bonding primers.
1. **Aerosol Adhesive:** Any adhesive packaged as an aerosol with a spray mechanism permanently housed in a non-refillable can designed for hand-held application without the need for ancillary equipment.
- B. **CARCINOGEN:** A chemical listed as a known, probable, reasonably anticipated, or possible human

**VOLATILE ORGANIC COMPOUND (VOC) LIMITS FOR ADHESIVES,
SEALANTS, PAINTS & COATINGS FOR LEED BUILDINGS**

01 81 13.13 - 1



- carcinogen by the International Agency for Research on Cancer (IARC) (Groups 1, 2A, and 2B), the National Toxicology Program (NTP) (Groups 1 and 2), the U.S. Environmental Protection Agency (EPA) Integrated Risk Information System (IRIS) (weight-of-evidence classifications A, B1, B2, and C, carcinogenic, likely to be carcinogenic, and suggestive evidence of carcinogenicity or carcinogen potential), or the Occupational Safety and Health Administration (OSHA).
- C. **CLEAR WOOD FINISH:** Clear/semi-transparent coating applied to wood substrates to provide a transparent or translucent solid film.
1. **Lacquer:** Clear/semi-transparent coating formulated with cellulosic or synthetic resins to dry by evaporation without chemical reaction and provide a solid, protective film.
 2. **Sanding Sealer:** A sanding sealer that also meets the definition of a lacquer.
 3. **Varnish:** Clear/semi-transparent coating, excluding lacquers and shellacs, formulated to dry by chemical reaction on exposure to air. May contain small amounts of pigment.
- D. **COATING:** Liquid, liquefiable, or mastic composition that is converted to a solid adherent film after application to a substrate as a thin layer; and is used for decorating, protecting, identifying or to serve some functional purpose such as the filling or concealing of surface irregularities or the modification of light and heat radiation characteristics; and is intended for on-site application to interior or exterior surfaces of buildings. Does not include stains, clear finishes, recycled latex paint, specialty (industrial, marine or automotive) coatings or paint sold in aerosol cans.
- E. **FLOOR COATING:** Opaque coating applied to flooring. Excludes industrial maintenance coatings.
- F. **HAZARDOUS AIR POLLUTANT:** Any compound listed by the U.S. EPA in the Clean Air Act Section 112(b)(1) as a hazardous air pollutant.
- G. **MUTAGEN:** A chemical that meets the criteria for category 1, chemicals known to induce heritable mutations or to be regarded as if they induce heritable mutations in the germ cells of humans, under the Harmonized System for the Classification of Chemicals Which Cause Mutations in Germ Cells (United Nations Economic Commission for Europe, Globally Harmonized System of Classification and Labeling of Chemicals).
- H. **OZONE-DEPLETING COMPOUNDS:** A compound with an ozone-depletion potential greater than 0.1 (CFC 11=1) according to the U.S. EPA list of Class I and Class II Ozone-Depleting Substances.
- I. **PAINT:** A pigmented coating. For the purposes of this specification, paint primers are considered to be paints.
1. **Flat Coating or Paint:** Has a gloss of less than 15 (using an 85-degree meter) or less than 5 (using a 60-degree meter).
 2. **Non-Flat Coating or Paint:** Has a gloss of greater than or equal to 15 (using an 85-degree meter) or greater than or equal to 5 (using a 60-degree meter).
 3. **Non-Flat High-Gloss Coating or Paint:** Has a gloss of greater than or equal to 70 (using a 60-degree meter).
 4. **Anti-Corrosive / Rust Preventative Paint:** Coating formulated and recommended for use in preventing the corrosion of ferrous metal substrates.
- J. **PRIMER:** Coating that is formulated and recommended for one or more of the following purposes: to provide a firm bond between the substrate and a subsequent coating; to prevent a subsequent coating from being absorbed into the substrate; to prevent harm to a subsequent coating from materials in the substrate; or to provide a smooth surface for application of a subsequent coating.
- K. **REPRODUCTIVE TOXIN:** A chemical listed as a reproductive toxin (including developmental, female, and male toxins) by the State of California under the Safe Drinking Water and Toxic Enforcement Act of 1986 (California Code of Regulations, Title 22, Division 2, Subdivision 1, Chapter 3, Sections 1200, et. Seq.).
- L. **SANDING SEALER:** Clear/semi-transparent coating formulated to seal bare wood. Can be abraded to create a smooth surface for subsequent coatings. Does not include sanding sealers that are lacquers (see Clear Wood Finish above).
- M. **SEALANT:** Any material with adhesive properties, formulated primarily to fill, seal, or waterproof gaps or joints



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

between surfaces. Includes sealant primers and caulks.

- N. SHELLAC: Clear or pigmented coating formulated solely with the resinous secretions of the lac beetle, thinned with alcohol and formulated to dry by evaporation without chemical reaction. Excludes floor applications.
- O. STAIN: Clear semi-transparent/opaque coating formulated to change the color but not conceal the grain pattern or texture of the substrate.
- P. VOLATILE AROMATIC COMPOUND: Any hydrocarbon compound containing one or more 6-carbon benzene rings, and having an initial boiling point less than or equal to 280 degrees Celsius measured at standard conditions of temperature and pressure.
- Q. VOLATILE ORGANIC COMPOUND: Any compound of carbon (excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate) which vaporizes (becomes a gas) and participates in atmospheric photochemical reactions, as specified in Part 51.00 of Chapter 40 of the U.S. Code of Federal Regulations, at normal room temperatures. For the purposes of this specification, formaldehyde and acetaldehyde are considered to be VOCs.
- R. WATERPROOFING SEALER: A coating that prevents the penetration of water into porous substrates.

1.5 GENERAL REQUIREMENTS:

- A. The City of New York is committed to implementing good environmental practices and procedures which include achieving a LEED Green building rating. Specific project requirements related to this goal which may impact this area of work are listed in the applicable paragraphs of this specification section. The Contractor shall ensure that the requirements as defined in the sections below and in related sections of the Contract Documents, are implemented to the fullest extent. Substitutions, or other changes to the work proposed by the Contractor or their Subcontractors, shall not be allowed if such changes compromise the stated environmental goals.

1.6 REFERENCES:

- A. Rule 1168 – “Adhesive and Sealant Applications”, amended 7 January 2005): South Coast Air Quality Management District (SCAQMD), State of California, www.aqmd.gov
- B. Rule 1113 - “Architectural Coatings”, amended 9 July 2004: South Coast Air Quality Management District (SCAQMD), State of California, www.aqmd.gov
- C. Green Seal Standard GS-11- “Paints”, of Green Seal, Inc., Washington, DC, www.greenseal.org
- D. Green Seal Standard GC-03- “Anti-Corrosive Paints”, of Green Seal, Inc., Washington, DC, www.greenseal.org

1.7 VOC REQUIREMENTS FOR INTERIOR ADHESIVES, SEALANTS, PAINTS AND COATINGS:

- A. GENERAL: Unless otherwise specified herein, the VOC content of all interior adhesives, sealants, paints and coatings (herein referred to as “products”) shall not be in excess of **250 grams per liter**.
- B. No product shall contain any ingredients that are carcinogens, mutagens, reproductive toxins, persistent bioaccumulative compounds, hazardous air pollutants, or ozone-depleting compounds. An exception shall be made for titanium dioxide and, for products that are pre-tinted by the manufacturer, carbon black, which shall be less than or equal to 1% by weight of the product.
- C. No product shall contain the following:
 - 1. methylene chloride
 - 2. 1,1,1-trichloroethane
 - 3. benzene

VOLATILE ORGANIC COMPOUND (VOC) LIMITS FOR ADHESIVES,
SEALANTS, PAINTS & COATINGS FOR LEED BUILDINGS

01 81 13.13 - 3



4. toluene
5. ethylbenzene
6. vinyl chloride
7. naphthalene
8. 1,2-dichlorobenzene
9. di (2-ethylhexyl) phthalate
10. butyl benzyl phthalate
11. di-n-butyl phthalate
12. di-n-octyl phthalate
13. diethyl phthalate
14. dimethyl phthalate
15. isophorone
16. antimony
17. cadmium
18. hexavalent chromium
19. lead
20. mercury
21. formaldehyde
22. methyl ethyl ketone
23. methyl isobutyl ketone
24. acrolein
25. acrylonitrile

D. No product shall contain more than 1.0% by weight of sum total of volatile aromatic compounds.

1.8 VOC REQUIREMENTS FOR INTERIOR ADHESIVES:

- A. The volatile organic compound (VOC) content of adhesives, adhesive bonding primers, or adhesive primers used in this project shall not exceed the limits defined in Rule 1168 – "Adhesive and Sealant Applications" of the South Coast Air Quality Management District (SCAQMD), of the State of California.
- B. The VOC limits defined by SCAQMD are as follows. All VOC limits are defined in grams per liter, less water and less exempt compounds.
- C. For specified building construction related applications, the allowable VOC content is as follows:

1. Architectural Applications:	
a. Indoor carpet adhesive	50
b. Carpet pad adhesive	50
c. Wood flooring adhesive	100
d. Rubber floor adhesive	60
e. Subfloor adhesive	50
f. Ceramic tile adhesive	65
g. VCT and asphalt tile adhesive	50
h. Drywall and panel adhesive	50
i. Cove base adhesive	50
j. Multipurpose construction adhesive	70
k. Structural glazing adhesive	100
2. Specialty Applications:	
a. PVC welding	510
b. CPVC welding	490
c. ABS welding	325
d. Plastic cement welding	250



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

- | | | |
|-------------------------------------|---|---------------------|
| e. | Adhesive primer for plastic | 550 |
| f. | Contact Adhesive | 80 |
| g. | Special Purpose Contact Adhesive | 250 |
| h. | Structural Wood Member Adhesive | 140 |
| i. | Sheet Applied Rubber Lining Operations | 850 |
| j. | Top and Trim Adhesive | 250 |
| 3. Substrate Specific Applications: | | |
| a. | Metal to metal | 30 |
| b. | Plastic foams | 50 |
| c. | Porous material (except wood) | 50 |
| d. | Wood | 30 |
| e. | Fiberglass | 80 |
| 4. Aerosol Adhesives: | | |
| a. | General purpose mist spray | 65% VOC's by weight |
| b. | General purpose web spray | 55% VOC's by weight |
| c. | Special purpose aerosol adhesives (all types) | 70% VOC's by weight |

1.9 VOC REQUIREMENTS FOR INTERIOR SEALANTS:

- A. The volatile organic compound (VOC) content of sealants, or sealant primers used in this project shall not exceed the limits defined in Rule 1168 – "Adhesive and Sealant Applications" of the South Coast Air Quality Management District (SCAQMD), of the State of California.
- B. The VOC limits defined by SCAQMD are as follows. All VOC limits are defined in grams per liter, less water and less exempt compounds.
- | | | |
|--------------------|---------------------------|-----|
| 1. Sealants: | | |
| a. | Architectural | 250 |
| b. | Non-membrane roof | 300 |
| c. | Roadway | 250 |
| d. | Single-ply roof membrane | 450 |
| e. | Other | 420 |
| 2. Sealant Primer: | | |
| a. | Architectural – Nonporous | 250 |
| b. | Architectural – Porous | 775 |
| c. | Other | 750 |

1.10 VOC REQUIREMENTS FOR INTERIOR PAINTS:

- A. Paints and Primers: Paints and primers used in non-specialized interior applications (i.e., for wallboard, plaster, wood, metal doors and frames, etc.) shall meet the VOC limitations of the Green Seal Paint Standard GS-11, of Green Seal, Inc., Washington, DC. Product-specific environmental requirements are as follows:
5. Volatile Organic Compounds:
- a. The VOC concentrations (in grams per liter) of the product shall not exceed those listed below as determined by U. S. Environmental Protection Agency (EPA) Reference Test Method 24.
- Interior Paints and Primers:
- Non-flat: 150 g/l
- Flat: 50 g/l
- The calculation of VOC shall exclude water and tinting color added at the point of sale.



- B. Anti-Corrosive and Anti-Rust Paints: Anti-corrosive and anti-rust paints applied to interior ferrous metal substrates shall meet the VOC limitations of the Green Seal Paint Standard GC-03, of Green Seal, Inc., Washington, DC. Product-specific environmental requirements are as follows:

1. Volatile Organic Compounds:

- a. The VOC concentrations (in grams per liter) of the product shall not exceed those listed below as determined by U. S. Environmental Protection Agency (EPA) Reference Test Method 24.

Anti-Corrosive and Anti-Rust Paints: 250 g/l

The calculation of VOC shall exclude water and tinting color added at the point of sale.

1.11 VOC REQUIREMENTS FOR INTERIOR COATINGS:

- A. Clear wood finishes, floor coatings, stains, sealers, and shellacs applied to the interior shall meet the VOC limitations defined in Rule 1113, "Architectural Coatings" of SCAQMD, of the State of California. The VOC limits defined by SCAQMD, based on 7/9/04 amendments, are as follows. VOC limits are defined in grams per liter, less water and less exempt compounds.

1. Clear Wood Finishes:	
a. Varnish	350
b. Sanding Sealers	350
c. Lacquer	550
2. Shellac:	
a. Clear	730
b. Pigmented	550
3. Stains	250
4. Floor Coatings	100
5. Waterproofing Sealers	250
6. Sanding Sealers	275
7. Other Sealers	200

The calculation of VOC shall exclude water and tinting color added at the point of sale.

1.12 SUBMITTALS:

- A. Submit Material Safety Data Sheets, for all applicable products in accordance with Section 01 33 00, SUBMITTAL PROCEDURES. Applicable products include, but are not limited to adhesives, sealants, carpets, paints and coatings. Material Safety Data Sheets shall indicate the Volatile Organic Compound (VOC) limits of products submitted. (If an MSDS does not include a product's VOC limits, then product data sheets, manufacturer literature, or a letter of certification from the manufacturer can be submitted in addition to the MSDS to indicate the VOC limits).
- B. Submit Environmental Building Materials Certification Form (EBMCF) as referenced in Section 01 81 13 SUSTAINABLE REQUIREMENTS FOR LEED BUILDINGS: For each field-applied adhesive, sealant, paint, and coating product, provide the VOC requirement, as provided in this Specification, for the relevant material category indicated on the documentation noted above.

PART II – PRODUCTS (Not Used)

PART III – EXECUTION (Not Used)

END OF SECTION 01 81 13.13



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

SECTION 01 81 19
INDOOR AIR QUALITY REQUIREMENTS FOR LEED BUILDINGS

REFER TO THE ADDENDUM FOR APPLICABILITY OF THIS SECTION 01 81 19

PART I – GENERAL

1.1 RELATED DOCUMENTS:

- A. The following documents apply to all required work for the Project: (1) the Contract Drawings, (2) the Specifications, (3) the General Conditions, (4) the Addendum, and (5) the Contract [City of New York Standard Construction Contract].

1.2 CONSTRUCTION IAQ MANAGEMENT GOALS FOR THE PROJECT:

- A. The City of New York has determined that this Project shall minimize the detrimental impacts on Indoor Air Quality (IAQ) resulting from construction activities. Factors that contaminate indoor air, such as dust entering HVAC systems and ductwork, improper storage of materials on-site, poor housekeeping, shall be minimized.

1.3 RELATED SECTIONS:

- A. All sections of the Specifications related to interior construction, MEP systems, and items affecting indoor air quality.
- B. Section 01 81 13, SUSTAINABLE DESIGN REQUIREMENTS FOR LEED BUILDINGS
- C. Section 01 81 13.13, VOLATILE ORGANIC COMPOUND (VOC) LIMITS FOR ADHESIVES, SEALANTS, PAINTS AND COATINGS.
- D. Division 9 (of the Specifications): Finishes.

1.4 DEFINITIONS:

- A. Refer to Article 2 of the Contract for definition of terms, words and expressions used in the General Conditions not otherwise defined herein.
- B. Design Consultant: "Design Consultant" shall mean the entity responsible for providing design services for the Project, including without limitation, preparing the construction documents (drawings and specifications) and providing services in connection with such documents during construction. The entity serving as the "Design Consultant" may be a corporation, firm, partnership, joint venture, individual or combination thereof. Such entity may be either an employee(s) of the City or an entity engaged by the City to provide such services.
- C. Volatile Organic Compounds (VOC's): Chemical compounds common in and emitted by many building products, including solvents in paints, coatings, adhesives and sealants, wood preservatives, composite wood binder, and foam insulations. Not all VOC's are harmful, but many of those contained within building products contribute to the formation of smog and may irritate building occupants by their smell and/or health impact.



- D. Materials that act as "sinks" for VOC contamination: Absorptive materials, typically dry and soft materials (such as textiles, carpeting, acoustical ceiling tiles and gypsum board) that readily absorb VOC's emitted by "source" materials and release them over a prolonged period of time.
- E. Materials that act as "sources" for VOC contamination: Products with high VOC contents that emit VOC's either rapidly during application and curing (typically "wet" products, such as paints, sealants, adhesives, caulks and sealers) or over a prolonged period (typically "dry" products such as flooring coverings with plasticizers and engineered wood with formaldehyde).

1.5 REFERENCES, RESOURCES:

- A. "IAQ Guidelines for Occupied Buildings Under Construction", First Edition, November 1995, The Sheet Metal and Air Conditioner Contractors National Association (SMACNA). (703) 803-2980, www.smacna.org.
- B. ANSI/ASHRAE 52.2-1999, "Method of Testing General Ventilation Air-Cleaning Devices for Removal Efficiency by Particle Size", www.ashrae.org

1.6 LEED BUILDING GENERAL REQUIREMENTS:

- A. Implement practices and procedures as necessary to meet the project's environmental performance goals as set forth in the specific requirements of this section. Specific project goals that may impact this area of work include: use of recycled-content materials; use of low-emitting materials; construction waste recycling; and the implementation of a construction indoor air quality management plan. Ensure that the requirements related to these goals, as defined in this Section, are implemented to the fullest extent. Substitutions or other changes to the work shall not be allowed if such changes compromise the stated LEED BUILDING Performance Criteria.

1.7 CONSTRUCTION IAQ MANAGEMENT PLAN:

- A. The Contractor shall prepare and implement a Construction IAQ Management Plan in coordination with each subcontractor and submit the IAQ Management Plan to the Commissioner for approval in accordance with Section 01 33 00, SUBMITTAL PROCEDURE. The Construction IAQ Management Plan shall meet the following criteria:
 - 1. Construction activities shall be planned to meet or exceed the minimum requirements of the Sheet Metal and Air Conditioning National Contractors' Association (SMACNA) "IAQ Guidelines for Occupied Buildings Under Construction", Third Edition, 2007.
 - 2. Absorptive materials shall be protected from moisture damage when stored on-site and after installation.
 - 3. If air handlers are to be used during construction, filtration media with a Minimum Efficiency Reporting Value (MERV) of 8 must be used at each return air grill, as determined by ASHRAE 52.2-1999.
 - 4. Filtration media shall be replaced immediately prior to occupancy. Filtration media shall have a Minimum Efficiency Reporting Value (MERV) of 13 as determined by ASHRAE 52.2-1999 if the project is pursuing Indoor Air Quality Credit 5: Indoor Chemical Pollutant Source Control.
 - 5. A "Sequence of Finish Installation Plan" shall be developed, highlighting measures to reduce the absorption of VOCs by materials that act as "sinks".
 - 6. Upon approval of the Plan by the Commissioner, it shall be implemented by the Contractor through the duration of the construction process, and documented in accordance with the Submittal Requirements of Sub-Section 1.8 herein.
- B. Further description of the Construction IAQ Management Plan requirements is as follows:



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

1. SMACNA Guidelines: Chapter 3 of the referenced "IAQ Guidelines for Occupied Buildings Under Construction", outline IAQ measures in five categories as listed below. The Construction IAQ Management Plan shall be organized in accordance with the SMACNA format, and shall address measures to be implemented in each of the five categories (including subsections). All subsections shall be listed in the Plan; items that are not applicable for this project should be listed as such.
 - a. HVAC Protection
 - 1) Protect air handling and distribution equipment and air supply and return ducting during construction.
 - 2) All ductwork arriving on site will be sealed with plastic sheeting and stored on pallets or dunnage until installed.
 - 3) Cover and protect all exposed air inlets and outlets, openings, grilles, ducts, plenums, etc. to prevent water, moisture, dust and other contaminant intrusion.
 - 4) Apply protection immediately after ducting.
 - 5) Protect ducting runs at the end of day's work.
 - 6) Inspect temporary filtration weekly and replace as required to maintain the proper ventilation rates in the building.
 - b. Source Control
 - 1) Protect stored on-site or installed absorptive or porous materials.
 - 2) Do not use wet or damaged porous materials in the building.
 - 3) Recover, isolate, and ventilate containers housing toxic materials and materials with VOC levels above the limits for interior adhesives, sealants, paints, and coatings described in these Specifications.
 - 4) Exhaust fumes from idling vehicles and gasoline fueled tools through use of funnels or temporary piping.
 - 5) Containers housing toxic materials and materials with VOC levels above the limits for interior adhesives, sealants, paints, and coatings described in these Specifications, shall be closed when not in use.
 - c. Pathway Interruption
 - 1) Depressurize work areas to contain dust and odors.
 - 2) Pressurize occupied spaces to prevent intrusion of dust and odors.
 - 3) Erect barriers to contain construction areas.
 - 4) Relocate pollutant sources.
 - 5) Temporarily seal the building and provide 100% outside air for ventilation.
 - d. Housekeeping
 - 1) Store materials on elevated platforms under cover, in a designated dry, clean location, prior to unpacking for installation.
 - 2) If materials are not stored in an enclosed location, cover tops and sides of material with waterproof sheeting, securely tied.
 - 3) Institute cleaning activities to remove contaminants from the building prior to occupancy. Clean all coils, air filters, and ductwork prior to performing testing, adjusting, and balancing of HVAC systems.
 - 4) Sweep the work area on a daily basis. Use an efficient and effective dust collecting method such as damp cloth, wet mop, or vacuum with particulate filters. Activities which produce high levels of dust shall be cleaned up immediately upon completion.
 - 5) Spills or excess applications of products containing solvents, or with VOC levels above the limits for interior adhesives, sealants, paints, and coatings described in these Specifications, must be removed immediately.
 - 6) Dust all walls prior to application of finishes.
 - 7) Vacuum all stud tracks prior to application of insulation.
 - 8) Materials which become contaminated through direct exposure to moisture from precipitation, plumbing leaks, or condensation shall be replaced by the Contractor.
 - e. Scheduling
 - 1) Phase construction such that absorptive materials are installed only in areas that are



- weathertight.
- 2) Schedule activities that utilize "sources" of VOC contamination to take place prior to installing high absorbent materials that will act as "sinks" for contaminants.
 - 3) Review of the appropriate components of the Construction IAQ Management Plan shall be a regular action topic at weekly site coordination meetings. Implementation of the Plan shall be documented in the meeting minutes.
2. Protection of Materials from Moisture Damage: As part of the "Housekeeping" section of the Construction IAQ Management Plan, measures to prevent installed materials or material stored on-site from moisture damage shall be described. This section should also describe measures to be taken if moisture damage does occur to absorptive materials during the course of construction.
 3. Replacement of Filtration Media: Under the "HVAC Protection" section of the Construction IAQ Management Plan, a description of the filtration media in all ventilation equipment shall be provided. The description shall include replacement criteria for filtration media during construction, and confirmation of filtration media replacement for all equipment immediately prior to occupancy.
 4. Sequence of Finish Installation for Materials: Where feasible, absorptive materials shall be installed after the installation of materials or finishes which have high short-term emissions of VOC's, formaldehyde, particulates, or other air-borne compounds. Absorptive materials include, but are not limited to: carpets; acoustical ceiling panels; fabric wall coverings; insulations (exposed to the airstream); upholstered furnishings; and other woven, fibrous or porous materials. Materials with high short-term emissions include, but are not limited to: adhesives, sealants and glazing compounds (specifically those with petrochemical vehicles or carriers); paints, wood preservatives and finishes; control and/or expansion joint fillers; hard finishes requiring adhesive installation; gypsum board (with associated finish processes and products); and composite or engineered wood products with formaldehyde binders.
 5. Develop and implement an Indoor Air Quality (IAQ) Management Plan for the pre-occupancy phase as follows:

OPTION 1 — Flush-Out

- After construction ends, prior to occupancy and with all interior finishes installed, perform a building flush-out by supplying a total air volume of 14,000 cu.ft. of outdoor air per sq.ft. of floor area while maintaining an internal temperature of at least 60 degrees F and relative humidity no higher than 60%.

OR

- If occupancy is desired prior to completion of the flush-out, the space may be occupied following delivery of a minimum of 3,500 cu.ft. of outdoor air per sq.ft. of floor area to the space. Once a space is occupied, it shall be ventilated at a minimum rate of 0.30 cfm/sq.ft. of outside air or the design minimum outside air rate determined in EQ Prerequisite 1, whichever is greater. During each day of the flush-out period, ventilation shall begin a minimum of three hours prior to occupancy and continue during occupancy. These conditions shall be maintained until a total of 14,000 cu.ft./sq.ft. of outside air has been delivered to the space.

OR

OPTION 2 — Air Testing

- Conduct baseline IAQ testing, after construction ends and prior to occupancy, using testing protocols consistent with the United States Environmental Protection Agency Compendium of



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

Methods for the Determination of Air Pollutants in Indoor Air and as additionally detailed in the LEED-NC Reference Guide.

- Demonstrate that the contaminant maximum concentrations listed below are not exceeded.

CONTAMINANT	MAXIMUM CONCENTRATION
Formaldehyde	27 parts per billion
Particulates (PM10)	50 micrograms per cubic meter
Total Volatile Organic Compounds (TVOC)	500 micrograms per cubic meter
* 4-Phenylcyclohexene (4-PCH)	6.5 micrograms per cubic meter
Carbon Monoxide (CO)	9 part per million and no greater than 2 parts per million above outdoor levels
* This test is only required if carpets and fabrics with styrene butadiene rubber (SBR) latex backing material are installed as part of the base building systems.	

- For each sampling point where the maximum concentration limits are exceeded, conduct additional flush-out with outside air and retest the specific parameter(s) exceeded to indicate the requirements are achieved. Repeat procedure until all requirements have been met. When retesting non-complying building areas, take samples from the same locations as in the first test.

- The air sample testing shall be conducted as follows:

- All measurements shall be conducted prior to occupancy, but during normal occupied hours and with the building ventilation system starting at the normal daily start time and operated at the minimum outside air flow rate for the occupied mode throughout the duration of the air testing.
 - The building shall have all interior finishes installed, including but not limited to millwork, doors, paint, carpet and acoustic tiles. Non-fixed furnishings such as workstations and partitions are encouraged, but not required, to be in place for the testing.
 - The number of sampling locations will vary depending upon the size of the building and number of ventilation systems. For each portion of the building served by a separate ventilation system, the number of sampling points shall not be less than one per 25,000 sq.ft., or for each contiguous floor area, whichever is larger, and include areas with the least ventilation and greatest presumed source strength.
 - Air samples shall be collected between 3 feet and 6 feet from the floor to represent the breathing zone of occupants, and over a minimum 4-hour period.
6. Implementation and Coordination: Implement the Construction IAQ Management Plan, and coordinate the Plan with all affected trades. Designate one individual as the Construction IAQ Representative at no additional cost to the City of New York, who will be responsible for communicating the progress of the Plan with the Commissioner on a regular basis, and for assembling the required LEED documentation. Include provisions in the Construction IAQ Management Plan for addressing conditions in the field that do not adhere to the Plan, including provisions to implement a stop work order, or to rectify non-compliant conditions.
- Distribution: The Contractor shall distribute copies of the Construction IAQ Management Plan in accordance with Section 01 33 00, SUBMITTAL PROCEDURES.
 - Instruction: The Contractor shall provide on-site instruction of appropriate site management to all Contractor's Subcontractors.



- c. Monitoring: The Construction IAQ Representative shall monitor the implementation of the Construction IAQ Management Plan.

1.8 SUBMITTALS:

Submit the following LEED-required records and documents in accordance with Section 01 33 00, SUBMITTAL PROCEDURES and Section 01 81 13, SUSTAINABLE DESIGN REQUIREMENTS FOR LEED BUILDINGS.

- A. A copy of the Construction IAQ Management Plan as defined in Sub-Section 1.7 herein.
- B. Product cut-sheets for all filtration media used during construction and installed immediately prior to occupancy, with MERV values highlighted. Cut sheets shall be submitted with the Contractor's or Subcontractor's 'approved' stamp as confirmation that the products are the products installed on the project.
- C. Provide the Commissioner with a minimum of 18 photographs as required under the provision for Special Photographs, in accordance with Section 01 32 33, PHOTOGRAPHIC DOCUMENTATION, comprised of at least six photographs taken on three different occasions during construction. The photographs shall document the implementation of the Construction IAQ Management Plan throughout the course of the project construction. Examples include photographs of ductwork sealing and protection, temporary ventilation measures, and conditions of on-site materials storage (to prevent moisture damage). Photographs shall include integral date stamping, and shall be submitted with brief descriptions of the Construction IAQ Management Plan measure documented, or be referenced to project meeting minutes or similar project documents which reference to the Construction IAQ Management Plan measure documented.
- D. A copy of the project's TAQ Testing report if applicable.

1.9 QUALITY ASSURANCE:

- A. The Contractor shall be responsible for preparing and implementing the Construction IAQ Management Plan and shall coordinate and incorporate the work of its subcontractors in the IAQ Management Plan.
- B. Responsibility of Subcontractors: Subcontractors for this project shall be responsible to cooperate with the Contractor in the preparation and implementation of the Construction IAQ Management Plan.

PART II – PRODUCTS (Not Used)

PART III – EXECUTION (Not Used)

END OF SECTION 01 81 19



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

SECTION 01 91 13
GENERAL COMMISSIONING REQUIREMENTS

REFER TO THE ADDENDUM FOR APPLICABILITY OF THIS SECTION 01-91-13

PART I – GENERAL

1.1 RELATED DOCUMENTS:

- A. The following documents apply to all required work for the Project: (1) the Contract Drawings, (2) the Specifications, (3) the General Conditions, (4) the Addendum, and (5) the Contract [City of New York Standard Construction Contract].
- B. OPR and BoD documentation are included by reference for information only.
- C. The Commissioning Plan, prepared by the Commissioning Agent (CxA) under separate contract with the City of New York, contains requirements that apply to this section.

1.2 SUMMARY:

- A. This Section includes general requirements that apply to implementation of Commissioning without regard to systems, subsystems, and equipment being commissioned.
- B. This Section includes:
 - 1. Definitions
 - 2. Commissioning Team
 - 3. City's Responsibilities
 - 4. Each Contractor's Responsibilities
 - 5. Commissioning Authority's/Agent's (CxA) Responsibilities
 - 6. Commissioning Documentation
 - 7. Submittals
 - 8. Coordination

1.3 RELATED SECTIONS: Include without limitation the following:

- A. "HVAC Commissioning Requirements" indicated in other sections of the project specifications for specific requirements for commissioning HVAC systems.
- B. This project will be commissioned by an independent third party under separate contract with the City of New York. Commissioning shall be in accordance with ASHRAE and USGBC LEED procedures, and specific commissioning requirements of the Project Specifications, whichever is more stringent. The Contractor shall cooperate with the CxA and provide whatever assistance is required.
- C. Related Sections include without limitation the following:
 - 1. Section 01 10 00 SUMMARY
 - 2. Section 01 31 00 PROJECT MANAGEMENT AND COORDINATION
 - 3. Section 01 32 00 CONSTRUCTION PROGRESS DOCUMENTATION
 - 4. Section 01 78 39 CONTRACT RECORD DOCUMENTS
 - 5. Section 01 79 00 DEMONSTRATION AND TRAINING
 - 6. Section 01 81 13 SUSTAINABLE DESIGN REQUIREMENTS FOR LEED BUILDINGS

1.4 DEFINITIONS:

- A. Refer to Article 2 of the Contract for definition of terms, words and expressions used in the General Conditions not otherwise defined herein.



- B. Design Consultant: "Design Consultant" shall mean the entity responsible for providing design services for the Project, including without limitation, preparing the construction documents (drawings and specifications) and providing services in connection with such documents during construction. The entity serving as the "Design Consultant" may be a corporation, firm, partnership, joint venture, individual or combination thereof. Such entity may be either an employee(s) of the City or an entity engaged by the City to provide such services.
- C. Commissioner: The Commissioner of the Department of Design and Construction of the City of New York, his/her successors, or duly authorized representative(s).
- D. BoD: Basis of Design: A document, prepared by the Consultant Architect/Engineer, that records concepts, calculations, decisions, and product selections used to meet the OPR and to satisfy applicable regulatory requirements, standards, and guidelines. The document includes both narrative descriptions and lists of individual items that support the design process.
- E. Commissioning Plan: A document that outlines the organization, schedule, allocation of resources, and documentation requirements of the commissioning process.
- F. CxA: Commissioning Agent (Aka Commissioning Authority) under separate contract with the City of New York to provide Commissioning Services for this project.
- G. OPR: Owner's (City of New York) Project Requirements: A document, prepared by the Consulting Architect/Engineer that details the functional requirements of a project and the expectations of how it will be used and operated. These include Project goals, measurable performance criteria, cost considerations, benchmarks, success criteria, and supporting information.
- H. Systems, Subsystems, Equipment, and Components: Where these terms are used together or separately, they shall mean "as-built" systems, subsystems, equipment, and components.
- I. TAB: Testing, Adjusting, and Balancing.

1.5 COMMISSIONING TEAM:

- A. Members Appointed by the Contractor and its Subcontractors: Individuals, each having authority to act on behalf of the entity he or she represents, explicitly organized to implement the commissioning process through coordinated actions. The Commissioning Team shall consist of, but not be limited to, representatives of the Contractor, including Project superintendent and subcontractors, installers, suppliers, and specialists deemed appropriate by the CxA.
- B. Members Appointed by the City:
 - 1. Commissioning Authority/Agent (CxA): The designated person, company, or entity under separate contract with the City that plans, schedules, and coordinates the commissioning team to implement the commissioning process.
 - 2. Representatives of the facility user and operation and maintenance personnel.
 - 3. Consultant Architect/Engineer and other concerned entities.

1.6 CITY'S RESPONSIBILITIES:

- A. Provide the OPR documentation to the Commissioning Agent (CxA) for use in developing the commissioning plan; systems manual; operation and maintenance training plan; and testing plans and checklists.
- B. Assign operation and maintenance personnel and schedule them to participate in commissioning team activities.



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

- C. Provide the BoD documents, prepared by the Consulting Architect/Engineer and approved by the Commissioner, to the Commissioning Agent (CxA) for use in developing the commissioning plan, systems manual, and operation and maintenance training plan.

1.7 CONTRACTOR'S RESPONSIBILITIES:

- A. The Contractor shall provide utility services required for the commissioning process.
- B. As a member of the Commissioning Team, the Contractor and subcontractor(s) shall assign representatives with expertise and authority to act on behalf of the Contractor and its subcontractor(s) and schedule them to participate in and perform commissioning team activities including, but not limited to, the following:
1. Participate in scheduled construction-phase coordination and commissioning team meetings.
 2. Integrate and coordinate commissioning process activities with the construction schedule.
 3. Review and accept commissioning process test procedures provided by the CxA.
 4. Review and accept construction checklists provided by the CxA.
 5. Perform testing required in the Commissioning Schedule as per the Commissioning Process test procedures provided by the CxA.
 6. Complete installation checklists as Work is completed and return to CxA through the Resident Engineer.
 7. Cooperate with the CxA for resolution of issues recorded in the Issues Log.
 8. Evaluate performance deficiencies identified in test reports and, in collaboration with entity responsible for system and equipment installation, recommend corrective action.
 9. Submit As-Built documents, operation and maintenance manuals for systems and subsystems, and equipment in accordance with Section 01 78 39, CONTRACT RECORD DOCUMENTS.
 10. Provide orientation sessions for operation and maintenance personnel (sessions will be video recorded by the CxA) in accordance with Section 01 79 00, DEMONSTRATION AND OWNER'S PRE-ACCEPTANCE ORIENTATION.

1.8 COMMISSIONING AGENT'S (CxA) RESPONSIBILITIES:

- A. Organize and lead the commissioning team.
- B. Prepare a construction-phase commissioning plan. Collaborate through the Resident Engineer with each Contractor and with subcontractors to develop test and inspection procedures. Include design changes and coordinate commissioning activities with the overall Project schedule. Identify commissioning team member responsibilities, by name, firm, and trade specialty, for performance of each commissioning task.
- C. Review and comment in accordance with Section 01 33 00, SUBMITTAL PROCEDURES, on submittals from the Contractor for compliance with the OPR, BoD, Contract Documents, and construction-phase commissioning plan. Review and comment on performance expectations of systems and equipment and interface between systems relating to the OPR and BoD.
- D. Coordinate with the Resident Engineer to convene commissioning team meetings for the purpose of coordination, communication, and conflict resolution; discuss progress of the commissioning processes. Responsibilities include arranging for facilities, preparing agenda and attendance lists, and notifying participants. The Commissioning Agent (CxA) will prepare and distribute minutes to commissioning team members and attendees within three workdays of the commissioning meeting.
- E. At the beginning of the construction phase, coordinate with the Resident Engineer's kick-off meeting schedule to conduct an initial construction-phase coordination meeting for the purpose of reviewing the commissioning activities and establishing tentative schedules for operation and maintenance submittals, operation and maintenance training sessions, TAB Work, and Project completion.



- F. Observe and inspect construction. Report progress and deficiencies to the Commissioner. In addition to compliance with the OPR, BoD, and Contract Documents, inspect systems and equipment installation for adequate accessibility required for component maintenance replacement and repair.
- G. Prepare Project-specific test and inspection procedures and checklists.
- H. Coordinate with the Resident Engineer to schedule, direct, witness, and document tests, inspections, and systems startup.
- I. Compile test data, inspection reports, and certificates and include them in the systems manual and commissioning report.
- J. Certify date of acceptance and startup for each item of equipment for start of warranty periods.
- K. Review and comment on operation and maintenance documentation and systems manual outline for compliance with the OPR, BoD, and Contract Documents. Operation and maintenance documentation requirements are specified in other sections of the project specifications and described in Section 01 78 39, CONTRACT RECORD DOCUMENTS.
- L. Record and edit demonstration and orientation sessions on DVD.
- M. Prepare commissioning reports.
- N. Assemble the final commissioning documentation, including the commissioning report and Systems Manual.

1.9 COMMISSIONING DOCUMENTATION:

The Contractor shall assist the Commissioning Agent (CxA) in the development and compiling of the following Commissioning Documentation:

- A. Index of Commissioning Documents: The Commissioning Agent (CxA) will prepare an index including the storage location of each document.
- B. OPR: A written document prepared by the Consulting Architect/Engineer that details the functional requirements of the Project and expectations of how it will be used and operated. This document includes the Project and design goals, measurable performance criteria, budgets, schedules, success criteria, and supporting information.
- C. BoD Document: A document prepared by the Consulting Architect/Engineer that records concepts, calculations, decisions, and product selections used to meet the OPR and to satisfy applicable regulatory requirements, standards, and guidelines. The document includes both narrative descriptions and lists of individual items that explain the designed systems.
- D. Commissioning Plan: A document prepared by the Commissioning Agent (CxA) that outlines the schedule, allocation of resources, and documentation requirements of the commissioning process.
- E. Test Checklists: The Commissioning Agent (CxA) will develop test checklists for each system, subsystem, or equipment including interfaces and interlocks, and include a separate entry, with space for comments, for each item to be tested. The CxA will prepare separate checklists for each mode of operation and provide space to indicate whether the mode under test responded as required. Space will be provided for testing personnel to sign off on each checklist. Specific checklist content requirements are specified in other sections of the project specifications.
- F. Inspection Checklists will be signed by the Contractor, Subcontractor(s), Installer(s), and CxA certifying that systems, subsystems, equipment, and associated controls are ready for testing.
- G. Test and Inspection Reports: The Commissioning Agent (CxA) will record test data, observations, and measurements on test checklists. Photographs, forms, and other means appropriate for the application will be included with data. CxA shall compile test and inspection reports and test and inspection certificates and include them in systems manual and commissioning report.



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

- H. Corrective Action Documents: The Commissioning Agent (CxA) will document corrective action taken for systems and equipment that fail tests and include required modifications to systems and equipment and revisions to test procedures, if any. The Contractor shall retest systems and equipment requiring corrective action. The CxA will document retest results.
- I. Issues Log: The Commissioning Agent (CxA) will prepare and maintain an issues log that describes design, installation, and performance issues that are at variance with the OPR, BoD, and Contract Documents. The log will identify and track issues as they are encountered, documenting the status of unresolved and resolved issues.
 - 1. Commissioning Report: The Commissioning Agent (CxA) will document results of the commissioning process including unresolved issues and performance of systems, subsystems, and equipment. The commissioning report will indicate whether systems, subsystems, and equipment have been completed and are performing according to the OPR, BoD, and Contract Documents.
- J. Systems Manual: The Commissioning Agent (CxA) will gather required information and compile systems manual as specified in other sections of the project specifications and described in Section 01 78 39, CONTRACT RECORD DOCUMENTS..

1.10 SUBMITTALS:

- A. Commissioning Plan Pre-final Submittal: The Commissioning Agent (CxA) will submit six (6) copies of the pre-final commissioning plan to the Commissioner for review and distribution.
- B. Commissioning Plan Final Submittal: The Commissioning Agent (CxA) will submit six (6) hard copies and electronically formatted information of the final commissioning plan to the Commissioner. The final submittal will address previous review comments.
- C. Test and Inspection Reports: CxA will submit test and inspection reports.
- D. Corrective Action Documents: CxA will submit corrective action documents.

1.11 COORDINATION:

- A. Coordinating Meetings: The Commissioning Agent (CxA) will coordinate with the Resident Engineer's regularly scheduled construction progress meetings to conduct coordination meetings of the commissioning team to review progress on the commissioning plan, to discuss scheduling conflicts, and to discuss upcoming commissioning process activities.
- B. Pre-testing Meetings: The Commissioning Agent (CxA) will coordinate with the Resident Engineer to conduct pretest meetings of the commissioning team to review startup reports, pretest inspection results, testing procedures, testing personnel and instrumentation requirements, and manufacturers' authorized service representative services for each system, subsystem, equipment, and component to be tested.
- C. Testing Coordination: The Commissioning Agent (CxA) will coordinate with the Resident Engineer the sequence of testing activities to accommodate required quality-assurance and -control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspecting.
 - 1. Coordinate schedule times with the Resident Engineer for tests, inspections, obtaining samples, and similar activities.
- D. Manufacturers' Field Services: The Commissioning Agent (CxA) will coordinate services of manufacturers' field services.

PART II – PRODUCTS (Not Used)



PART III – EXECUTION

3.1 OPERATION & MAINTENANCE MANUALS

A. General

1. The CxA shall review the Operation & Maintenance manuals provided by the Contractor or subcontractors for completeness of the document. The review process shall verify that Operation & Maintenance instructions meet specifications and are included for all commissioned equipment furnished by the Contractor.
2. Published literature shall be specifically oriented to the provided equipment, indicating required operation and maintenance procedures, parts lists, assembly / disassembly diagrams and related information.
3. The Contractor shall incorporate the standard technical literature into system specific formats for this facility as designed and as actually installed. The resulting Operation & Maintenance information shall be system specific, concise, to the point and tailored specifically to this facility. The CxA shall review these documents as necessary for final corrections by the Contractor.

- B. The Operation & Maintenance Manual review and coordination efforts shall be completed prior to Owner orientation sessions, as these documents are to be utilized in the training sessions.

C. System Operations Manual

1. The CxA shall prepare and deliver these documents with inputs from other agencies. The contractors will confirm the proper documents are onsite and readily available. Typically, the manual includes the following:
 - a. Commissioned systems single line diagrams (Mechanical, Electrical, Plumbing, and Building Management System (BMS) subcontractors).
 - b. As built sequences of operations, control drawings and original set points (Design Consultant and BMS subcontractor)
 - c. Operating instructions for integrated building systems (mechanical and BMS subcontractors).
 - d. Recommended schedule of maintenance requirements and frequency (subcontractors).
 - e. Recommended schedule for calibrating sensors and actuators (BMS subcontractor)

3.2 DEMONSTRATION AND INSTRUCTION

- A. The Contractor shall schedule and coordinate instruction sessions for the facility's staff for each commissioned system. Demonstrations shall be held per Contract Documents, along with the appropriate schematics, handouts and visual / audio training aids onsite with equipment.
- B. The equipment vendors shall provide instruction on the specifics of each major equipment item including philosophy, troubleshooting and repair techniques.
- C. For additional prescription pertinent to instruction, refer to other specific divisions for demonstration and instruction requirements.

3.3 WARRANTY REVIEW / SEASONAL TESTING

- A. The CxA will return upon the start of the new season (cooling or heating) after project completion to conduct performance tests that could not be performed due to ambient conditions. The seasonal testing will only be performed if unsuitable loads / conditions were unavailable during the performance testing stages (in other words; the requirement for testing is warranted).
- B. If agreed upon by facility, Seasonal Testing can also be used for the Warranty Review. During which the CxA will interview the occupants, maintenance staff, review the operation of the building, provide recommendations for installation and operational problems and document warranty and operational issues in the issues database.



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

Division 01 – DDC STANDARD GENERAL CONDITIONS
SINGLE CONTRACT PROJECTS
Issue Date - June 01, 2013

3.4 RECORD DRAWINGS

- A. The CxA shall review the as built contract documents to verify incorporation of both design changes and as built construction details. Discrepancies noted shall be corrected by the appropriate party.

END OF SECTION 01 91 13



NEW YORK CITY DEPARTMENT OF
DESIGN + CONSTRUCTION

Division 01 – DDC STANDARD GENERAL CONDITIONS
SINGLE CONTRACT PROJECTS
Issue Date - June 01, 2013

No Text

GENERAL COMMISSIONING REQUIREMENTS
01 91 13 - 8

**THE CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF PUBLIC BUILDINGS**

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

Contract for Furnishing all Labor and Material Necessary

Contractor

Dated _____, 20____

Approved as to Form
Certified as to Legal Authority

Acting Corporation Counsel

Dated _____, 20____

Entered in the Comptroller's Office

First Assistant Bookkeeper

Dated _____, 20____



FMS ID: PV467BSRC



**THE CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF PUBLIC BUILDINGS**

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

Contract for Furnishing all Labor and Material Necessary and Required for:

CONTRACT NO. 1 GENERAL CONSTRUCTION

**Renovation of the Bedford Stuyvesant
Restoration Youth Arts Academy**

LOCATION: 247 Herkimer Street
BOROUGH: Brooklyn, NY 11216
CITY OF NEW YORK

Royal Enterprise and Development
Contractor

Dated March 10, 2015

Approved as to Form
Certified as to Legal Authority

[Signature]
Acting Corporation Counsel

Dated June 26, 2014

Entered in the Comptroller's Office

First Assistant Bookkeeper

Dated _____, 20____

RP 6/26/14





PROJECT ID:

PV467BSRC

**THE CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF PUBLIC BUILDINGS**

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

VOLUME 3 OF 3

**ADDENDUM TO THE GENERAL
CONDITIONS**

SPECIFICATIONS

FOR FURNISHING ALL LABOR AND MATERIALS
NECESSARY AND REQUIRED FOR:

**Renovation of the Bedford
Stuyvesant Restoration Youth Arts
Academy**

LOCATION:
BOROUGH:
CITY OF NEW YORK

247 Herkimer Street
Brooklyn, NY 11216

CONTRACT NO. 1

GENERAL CONSTRUCTION

Department of Cultural Affairs

Huff and Gooden Architects, LLC

Date:

April 25, 2014



14-1.16

ADDENDA CONTROL SHEET

PROJECT No. : PV467BSRC

			APPROVED BY:
ADDENDA ISSUED	NO. OF DWG	DATE	ARCHITECTURE/ ENGINEERING GENERAL COUNSEL

[illegible]

THE CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF PUBLIC BUILDINGS

September 10, 2014

ADDENDUM No. # 1

FOR FURNISHING ALL LABOR AND MATERIAL NECESSARY AND REQUIRED FOR:

PV467BSRC

Renovation of the Bedford Stuyvesant Restoration Youth Arts Academy


This addendum is issued for the purpose of amending the requirements of the Bid and Contract Documents and is hereby made a part of said Bid and Contract Documents to the same extent as though it were originally included therein.

The bidder is advised that the items listed below apply to the project:

1. **Questions from Bidders and Responses to Questions:**
See Attachment A.
2. **Revisions to the Bid Booklet:**
See Attachment B.
3. **Revisions to the Drawings:**
See Attachment C.

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

If additional information is required, please contact the Department of Design and Construction, Contract Section at (718) 391-2200, (718) 391-1283, or by fax at (718) 391-2615.



Dr. Feniosky Peña-Mora
Commissioner

Name of Bidder

By: _____

DDC PROJECT #: PV467BSRC

PROJECT NAME: Renovation of the Bedford Stuyvesant Restoration Youth Arts Academy

ATTACHMENT A - BIDDERS QUESTIONS AND DDC RESPONSES

No.	Bidders Questions	DDC Responses
1	The Drawings call for 1 junction box in each bathroom to connect strip lights around a few mirrors. Does the mirror unit come prewired with the LED strip installed? The light fixtures are not specified.	Lighting at the mirror surround is deemed deleted from the scope of work. See Attachment B, Revisions to the Bid Booklet, and Attachment C, Revisions to the Drawings, for further information.

DDC PROJECT #: PV467BSRC

PROJECT NAME: Renovation of the Bedford Stuyvesant Restoration Youth Arts Academy

ATTACHMENT B – REVISIONS TO THE BID BOOKLET

Delete page 23-10 from the Bid Booklet, and replace with 23-10R, included with this Addendum.



Project: Youth Arts Academy Renovation
Location: 247 Herkimer Street, Brooklyn, NY 11216
Bidder:

Sponsor Agency: Department of Cultural Affairs

CSI Number	Description	Quantity	Unit	Unit Cost of Material	Total Cost of Material	Unit Cost of Labor	Total Cost of Labor	Total Cost: Materials and Labor
	100 AMP Tap		EA					
	Subtotal							
26 2726	WIRING DEVICES							
	Single pole key switches		EA					
	Occupancy sensors		EA					
	Duplex REC		EA					
	GFCI REC		EA					
	Hand dryers		EA					
	3/4" conduit		LF					
	12 AWG		LF					
	Subtotal							
26 5100	INTERIOR LIGHTING							
	2x2 Acrylic lens fixture		EA					
	2x2 Acrylic lens fixture w/EM ballast		EA					
	3/4" conduit		LF					
	12 AWG		LF					
	Subtotal							
	TOTAL CONTRACT 1 - GENERAL CONSTRUCTION WORK							

DDC PROJECT #: PV467BSRC

PROJECT NAME: Renovation of the Bedford Stuyvesant Restoration Youth Arts Academy

ATTACHMENT C – REVISIONS TO THE DRAWINGS

REFER TO DRAWING E-100.00

Delete all references to junction box, wiring, and backlighting at mirrors on Second and Third Floor Lighting Plans.



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THE CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF PUBLIC BUILDINGS

ADDENDUM TO THE GENERAL CONDITIONS
FOR SINGLE CONTRACT PROJECTS

The General Conditions are hereby amended in accordance
with the terms and conditions set forth in this Addendum.

I. PROJECT DESCRIPTION

FMS #: **PV467BSRC**

PROJECT NAME: ***Renovation of the Bedford Stuyvesant Restoration Youth Arts Academy***

PROJECT DESCRIPTION: This Project consists of the partial renovation of the second and third floors of the Youth Arts Academy (YAA) for the NYC Department of Cultural Affairs (DCA). The total area of renovation is approximately 1,000 square feet.

PROJECT LOCATION: ***247 Herkimer Street***

BOROUGH: ***Brooklyn***

CITY OF NEW YORK

ZIP CODE: ***11216***

COMMUNITY BOARD #: ***3***

LANDMARK STATUS:

DESIGNATED LANDMARK STRUCTURE OR SITE: **NO**

If this is a Designated Landmark Structure or Site, Section 01 3591, Historic Treatment Procedures applies to this project.

LANDMARK QUALITY STRUCTURE: **NO**

If this is a Landmark Quality Structure, Section 01 3591, Historic Treatment Procedures applies to this project.

II. LEED GREEN BUILDING REQUIREMENTS

Not Used

III. COMMISSIONING REQUIREMENTS

Not Used

IV. PROJECT MANAGEMENT

- ☒ DDC shall publicly bid and enter into all contracts for the Project. DDC shall manage the Project using its own personnel.
- ☐ DDC shall publicly bid and enter into all contracts for the Project. A Construction Management firm (the "CM") hired by DDC shall manage the Project. The Contractor is advised that the CM shall serve as the representative of the Commissioner at the site and shall, subject to review by the Commissioner, be responsible for the inspection, management, coordination and administration of the required construction work, as delineated in the article of the Standard Construction Contract entitled "The Resident Engineer".

V. CONTRACTS FOR THE PROJECT

The Project consists of a single contract, the Contract for General Construction Work. The Contractor for General Construction Work is responsible for the performance of all required work for the Project as set forth in the Contract Documents (General Conditions, Drawings and Specifications), including all responsibilities and obligations assigned to separate Contractors for the following subdivisions of the work: Plumbing Work, HVAC Work, and Electrical Work. All responsibilities and obligations in the Contract Documents assigned to separate Contractors for such subdivisions of the work are the responsibility of the Contractor for General Construction Work.

VI. SCHEDULES

The Contractor is advised that Schedules A through F are attached to, and incorporated as part of, this Addendum to the General Conditions. These schedules contain important information that is specific to this Project. The Contractor is advised to carefully review these schedules.

VII. APPLICABILITY OF SECTIONS/SUB-SECTIONS AND AMENDED SUB-SECTIONS

The Contractor is advised that various Sections/Sub-Sections in the General Conditions may not apply to this Project or may apply as amended. Such Sections/Sub-Sections advise the Contractor to "Refer to the Addendum for the applicability of this Section/Sub-Section." Such Sections/Sub-Sections are set forth below. A check mark indicates whether the Section/Sub-Section (1) applies to the Project, (2) does not apply to the Project, or (3) applies to the Project as amended. If no box is checked, the Section/Sub-Section, as set forth in the General Conditions, applies to the Project. Amended Sections/Sub-Sections, if any, are set forth following this list of Sections.

<u>Section</u>	<u>Sub-Section</u>	<u>Sub-Section</u>	<u>Applies</u>	<u>Does not Apply</u>	<u>Applies as Amended</u>
01 1000	1.4 (B)	Scope and Intent / LEED		X	
	1.4(C)	Scope and Intent / Commissioning		X	
01 3233		Photographic Documentation		X	
01 3300	1.7 (A-D)	LEED Submittals		X	
01 3503		General Mechanical Requirements		X	
01 3506	3.2 (A-B)	Electrical Conduit System Including Boxes (Pull, Junction and Outlet)		X	
	3.3 (A-E)	Electrical Wiring Devices		X	
	3.4 (A-I)	Electrical Conductors and Terminations		X	
	3.5 (A-B)	Circuit Protective Devices		X	
	3.6 (A-J)	Distribution Centers		X	
	3.7 (A-I)	Motors		X	
	3.8 (A-I)	Motor Control Equipment		X	
01 3591		Historic Treatment Procedures		X	
01 5000	3.2 (A)	Temporary Water Facilities / Temporary Water		X	
	3.2 (B)	Temporary Water Facilities / Temporary Water – Work in Existing Facilities	X		
	3.3 (B)	Temporary Sanitary Facilities / Self-Contained Toilet Units		X	
	3.3 (C)	Temporary Sanitary Facilities / Existing Toilets		X	
	3.4 (B) 1	Temporary Power, Lighting, and Site Lighting / Connection to Utility Lines		X	
	3.4 (B) 2	Temporary Power, Lighting, and Site Lighting / Connection to Existing Electrical Power Service		X	
	3.4 (B) 3	Temporary Power, Lighting, and Site Lighting / Electrical Generator Power Service		X	
	3.4 (D)	Temporary Power, Lighting, and Site Lighting / Temporary Lighting	X		
	3.4 (E)	Temporary Power, Lighting, and Site Lighting / Site Security Lighting (for New Construction Only)		X	
	3.5 (A-J)	Temporary Heat		X	
	3.8 (A)	DDC Field Office / Office Space in Existing Building	X		

<u>Section</u>	<u>Sub-Section</u>	<u>Sub-Section</u>	<u>Applies</u>	<u>Does not Apply</u>	<u>Applies as Amended</u>
01 5000	3.8 (B)	DDC Field Office / DDC Field Office Trailer		X	
	3.8 (B-3a)	DDC Field Office / DDC Managed Field Office Trailer		X	
	3.8 (B-3b)	DDC Field Office / CM Managed Field Office Trailer		X	
	3.8 (D)	DDC Field Office / Additional Equipment for the DDC Field Office		X	
	3.13(A-D)	Work Fence Enclosure		X	
	3.17(B)	Project Rendering		X	
	3.18 (A-C)	Security Guards / Fire Guards on Site		X	
01 5411	3.1 (A-J)	Temporary Use, Operation and Maintenance of Elevators During Construction for New Buildings Up To and Including 15 Stories		X	
	3.2 (A-M)	Temporary Use, Operation and Maintenance of Elevators During Construction for New Buildings Over 15 Stories		X	
	3.3 (A-E)	Temporary Use, Operation and Maintenance of Elevators During Construction for Existing Buildings		X	
01 7300	3.3 (A-I)	Surveys		X	
	3.4 (A-B)	Borings		X	
	3.12 (A-D)	Sleeves and Hangers		X	
	3.13 (A)	Sleeve and Penetration Drawings		X	
	3.15 (A)	Location of Partitions		X	
01 7419	1.5 (C)	Waste Management Performance Requirements / LEED Certification		X	
01 7900		Demonstration and Owner's Pre-Acceptance Orientation		X	
	3.2 (A)	Non-Commissioned Projects		X	
	3.2 (B)	Commissioned Projects		X	
01 8113		Sustainable Design Requirements for LEED Buildings		X	
01 8113.13		VOC Limits for Adhesives, Sealants, Paints and Coatings for LEED Buildings		X	
01 8119		Indoor Air Quality Requirements for LEED Buildings		X	
01 9113		General Commissioning Requirements		X	

VIII. SPECIAL EXPERIENCE REQUIREMENTS FOR THE PROJECT

Not Used

IX. REVISIONS: SPECIFICATIONS AND CONTRACT DRAWINGS

The Specifications and the Contract Drawings for the Project are revised in accordance with the provisions set forth below.

- (1) Owner: Wherever the term "Owner" is used in the Specifications and/or the Contract Drawings, such term shall mean the City of New York.
- (2) Other Entities: In the event any entity other than the City of New York is referred to or named as the "Owner" in the Specifications and/or the Contract Drawings, the name of such other entity is deemed deleted and replaced with the "City of New York".
- (3) Architect / Engineer: Wherever the words "Architect", "Engineer", "Architect / Engineer" or "Architect and/or Engineer" are used in the Specifications and/or the Contract Drawings, such words are deemed deleted and replaced with the word "Commissioner".
- (4) Products / Manufacturers: Wherever the Specifications and/or the Contract Drawings require the contractor to provide a particular product (i.e., material and/or equipment) from a designated manufacturer and/or vendor, the term "or approved equal" is deemed inserted, even if only one product and/or manufacturer is specified, except as otherwise provided below.
 - (a) Proprietary Items: If the Bid Booklet contains a Notice which identifies a particular product from a designated manufacturer as a "Proprietary Item", the Contractor shall be required to provide such specified product. In such case, no substitution or "approved equal" will be permitted.
- (5) Special Experience Requirements: Special Experience Requirements for the Project, if any, are set forth in the Bid Booklet. Special Experience Requirements may apply to contractors, subcontractors, installers, manufacturers and/or suppliers. If the Specifications and/or the Contract Drawings contain any Special Experience Requirement that is not set forth in the Bid Booklet, such Special Experience Requirement is deemed deleted, except as otherwise provided below.
 - (a) Any Special Experience Requirement that provides that the entity performing the work or supplying the material must have more than three (3) years of experience, is revised to provide that the entity performing the work or supplying the material must have three (3) years of experience, except as described in paragraph (b) below.
 - (b) Any Special Experience Requirement that pertains to the abatement of hazardous materials shall not be subject to the deletion and/or revision set forth above. Such Special Experience Requirement shall remain in full force and effect.
 - (c) Any Special Experience Requirement that provides that the entity performing the work must be licensed, authorized, certified, approved by or acceptable to the manufacturer, is deemed deleted and replaced with the requirement that such entity must be properly trained for the specified work.
 - (d) Any Special Experience Requirement that provides that the individual workers performing the work must be licensed, authorized, certified, approved by or acceptable to the manufacturer, is deemed deleted and replaced with the requirement that such individual workers must be properly trained for the specified work.
- (6) Alternate Bids: If the agency is requesting the submission of Alternate Bids, a Notice regarding such Alternate Bids is set forth in the Bid Booklet. In the event of any conflict or inconsistency between (1) the Notice regarding Alternate Bids set forth in the Bid Booklet and (2) a provision in the Specifications and/or the Contract Drawings regarding Alternate Bids, the Notice set forth in the Bid Booklet shall prevail. If the agency is not requesting the submission of Alternate Bids, as indicated by the absence of a Notice in the Bid Booklet, and the Specifications and/or the Contract Drawings contain any provision regarding Alternate Bids, such provision is deemed deleted.
- (7) Contractor Retained Engineer: If the Specifications and/or the Contract Drawings require the Contractor to retain an Engineer to provide engineering services for the Project, the following sentence is deemed inserted: "Such Engineer must be a Professional Engineer, licensed in the State of New York."

- (8) LEED Related Provisions: If the Specifications and/or the Contract Drawings require the Contractor to purchase FSC certified wood, rapidly renewable materials, or materials within 500 miles, such provisions are deemed deleted and replaced with the requirement that if the contractor has purchased FSC certified wood, rapidly renewable materials, or materials within 500 miles, the contractor shall submit such forms or documentation as may be required by the City in order for the USGBC to certify that the Project qualifies for the related LEED credit(s).
- (9) Guarantees: Requirements for Guarantees and Maintenance are set forth in Schedule B, which is included in the Addendum to the General Conditions. In the event of any conflict or inconsistency between (1) a guarantee and/or maintenance requirement set forth in the Specifications and/or the Contract Drawings and (2) a guarantee and/or maintenance requirement set forth in Schedule B, the guarantee and/or maintenance requirement set forth in Schedule B shall prevail.
- (10) Warranties: Requirements for Warranties are set forth in Schedule B, which is included in the Addendum to the General Conditions.
- (a) In the event of any conflict or inconsistency between (1) a warranty requirement set forth in the Specifications and/or the Contract Drawings and (2) a warranty requirement set forth in Schedule B, the warranty requirement set forth in Schedule B shall prevail.
- (b) In the event a warranty requirement set forth in the Specifications and/or the Contract Drawings is omitted from Schedule B, such omission from Schedule B shall have no effect and the Contractor's obligation to provide the manufacturer's warranty, as set forth in the Specifications and/or the Contract Drawings, shall remain in full force and effect.
- (c) In the event a warranty requirement for a particular item of material or equipment is omitted from Schedule B, as well as from the Specifications or the Contract Drawings, and the manufacturer of such item actually provides a warranty, the Contractor shall be obligated to obtain and deliver to the Commissioner the highest level of warranty actually provided by that manufacturer.
- (11) Exculpatory Provisions: In the event the Specifications and/or the Contract Drawings contain any provision whereby the consultant and/or any of its officers, employees or agents, including subconsultants, is absolved of responsibility for any act or omission, such provision is deemed deleted.
- (12) Insurance: Provisions regarding insurance coverage the Contractor is required to provide are set forth in Article 22 of the City of New York Standard Construction Contract and Schedule A, which is included in the Addendum to the General Conditions. In the event the Specifications and/or the Contract Drawings contain any provision regarding insurance requirements, such provision is deemed deleted.
- (13) Indemnification: Provisions regarding indemnification are set forth in Articles 7, 12, 22 and 57 of the City of New York Standard Construction Contract. In the event the Specifications and/or the Contract Drawings contain any provision regarding indemnification, such provision is deemed deleted.
- (14) Dispute Resolution: Provisions regarding dispute resolution are set forth in Article 27 of the City of New York Standard Construction Contract. In the event the Specifications and/or the Contract Drawings contain any provision regarding dispute resolution, such provision is deemed deleted.
- (15) Payment to Other Entities: In the event the Specifications and/or the Contract Drawings contain any provision which requires the Contractor to make payments to an entity other than a subcontractor and/or supplier providing services and/or material for the project, such provision is deemed deleted.
- (16) General Conditions: In the event of any conflict or inconsistency between (1) the Specifications and/or the Contract Drawings and (2) the General Conditions, the General Conditions shall prevail.
- (17) Standard Construction Contract: In the event of any conflict or inconsistency between (1) the Specifications and/or the Contract Drawings and (2) the City of New York Standard Construction Contract, the City of New York Standard Construction Contract shall prevail.

SCHEDULE A (FOR PUBLICLY BID PROJECTS)
Contract Requirements

Various Articles of the Contract refer to requirements which are set forth in Schedule A of the General Conditions. The Schedule set forth below specifies the following: (1) the referenced Articles of the Contract, and (2) the specific requirements applicable to each separate contract.

REFERENCE	ITEM	REQUIREMENTS	CONTRACT #1
Information For Bidders	Bid Security		See Attachment 1 – Bid Information in the Bid Booklet
Information For Bidders	Performance and Payment Bonds		See Attachment 1- Bid Information in the Bid Booklet
Article 14 Contract	Time of Completion	Consecutive Calendar Days	183
Article 15 Contract	Liquidated Damages	For each consecutive calendar day over completion time	\$120
Article 17 Contract	Sub-Contracts	Not to exceed Percent of Contract Price	60%
Article 21 Contract	Retainage	Percent of Voucher	If 100% bonds are required 5% If 100% bonds are not required, and Contract Price is less than \$1,000,000 10% If 100% bonds are not required, and Contract Price is more than \$1,000,000 10%
Article 24 Contract	Deposit Guarantee	Percent of Contract Price	1%
Article 24 Contract	Period of Guarantee		See Schedule B of the Addendum to the General Conditions
Article 74 Contract	Statement of Work		See Contract Article 74
Article 75 Contract	Compensation to be Paid to Contractor		See Contract Article 75
Article 78 Contract	MWBE Program		See MWBE Utilization Plan in the Bid Booklet

SCHEDULE A (FOR PUBLICLY BID PROJECTS)

Relating to Article 22 - Insurance

PART II. Types of Insurance, Minimum Limits and Special Conditions

Note: All certificate(s) of insurance submitted pursuant to Contract Article 22.3. 3 must be accompanied by a Certification by Broker consistent with Part III below and include the following information:

- For each insurance policy, the name and NAIC number of issuing company, number of policy, and effective dates;
- Policy limits consistent with the requirements listed below;
- Additional insureds or loss payees consistent with the requirements listed below; and
- The number assigned to the Contract by the City (in the "Description of Operations" field).

Insurance indicated by a blackened box (■) or by (X) in the ☐ 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	<p>The minimum limits shall be \$1,000,000.00 per occurrence and \$2,000,000.00 per project aggregate applicable to this Contract.</p> <p>Additional Insureds:</p> <ol style="list-style-type: none">1. City of New York, including its officials and employees, with coverage at least as broad as ISO Forms CG 20 10 and CG 20 37, and2. All person(s) or organization(s), if any, that Article 22.1.1(b) of the Contract requires to be named as Additional Insured(s), with coverage at least as broad as ISO Form CG 20 26. The Additional Insured endorsement shall either specify the entity's name, if known, or the entity's title (e.g., Project Manager).3. <u>NYC Department of Cultural Affairs</u>4. <u>Bedford Stuyvesant Restoration Corporation</u>5. <u>Youth Arts Academy</u>
■ Workers' Compensation Art. 22.1.2 ■ Disability Benefits Insurance Art. 22.1.2 ■ Employers' Liability Art. 22.1.2 <input type="checkbox"/> Jones Act Art. 22.1.3 <input type="checkbox"/> U.S. Longshoremen's and Harbor Workers Compensation Act Art. 22.1.3	<p>Workers' Compensation, Employers' Liability, and Disability Benefits Insurance: Statutory per New York State law without regard to jurisdiction.</p> <p>Note: The following forms are acceptable: (1) New York State Workers' Compensation Board Form No. C-105.2, (2) State Insurance Fund Form No. U-26.3, (3) New York State Workers' Compensation Board Form No. DB-120.1 and (3) Request for WC/DB Exemption Form No. CE-200. The City will not accept an ACORD form as proof of Workers' Compensation or Disability Insurance.</p> <p>Jones Act and U.S. Longshoremen's and Harbor Workers' Compensation Act: Statutory per U.S. law.</p>

SCHEDULE A (FOR PUBLICLY BID PROJECTS)

Relating to Article 22 - Insurance

PART II. Types of Insurance, Minimum Limits and Special Conditions

Insurance indicated by a blackened box (■) or by (X) in the ☐ 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
<div>■ Builders' Risk</div> <div>Art. 22.1.4</div>	<div>100 % of total value of Work</div> <div>Contractor the Named Insured; the City both an Additional Insured and one of the loss payees as its interests may appear.</div> <div>If the Work does not involve construction of a new building or gut renovation work, the Contractor may provide an installation floater in lieu of Builders Risk insurance.</div> <div>Note: Builders Risk Insurance may terminate upon Substantial Completion of the Work in its entirety.</div>
<div>■ Commercial Auto Liability</div> <div>Art. 22.1.5</div>	<div>\$1,000,000.00 per accident combined single limit</div> <div>If vehicles are used for transporting hazardous materials, the Contractor shall provide pollution liability broadened coverage for covered vehicles (endorsement CA 99 48) as well as proof of MCS 90</div>
<div><input type="checkbox"/> Contractor's Pollution Liability</div> <div>Art. 22.1.6</div>	<div>\$_____ per occurrence</div> <div>\$_____ aggregate</div> <div>Additional Insureds:</div> <div>1. City of New York, including its officials and employees, and</div> <div>2. _____</div> <div>3. _____</div>
<div><input type="checkbox"/> Marine Protection and Indemnity</div> <div>Art. 22.1.7(a)</div>	<div>\$_____ per occurrence</div> <div>\$_____ aggregate</div> <div>Additional Insureds:</div> <div>1. City of New York, including its officials and employees, and</div> <div>2. _____</div> <div>3. _____</div>

SCHEDULE A (FOR PUBLICLY BID PROJECTS)

Relating to Article 22 - Insurance

PART II. Types of Insurance, Minimum Limits and Special Conditions (Continued)

Insurance indicated by a blackened box (■) or by (X) in the ☐ 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
<input type="checkbox"/> Hull and Machinery Insurance Art. 22.1.7(b)	\$ _____ per occurrence \$ _____ aggregate Additional Insureds: 1. City of New York, including its officials and employees, and 2. _____ 3. _____
<input type="checkbox"/> Marine Pollution Liability Art. 22.1.7(c)	\$ _____ each occurrence Additional Insureds: 1. City of New York, including its officials and employees, and 2. _____ 3. _____
[OTHER] Art. 22.1.8 <input type="checkbox"/> Ship Repairers Legal Liability	\$ _____ each occurrence [Contracting agency to fill in total value of City vessels involved]
[OTHER] Art. 22.1.8 <input type="checkbox"/> Collision Liability/Towers Liability	\$ _____ per occurrence \$ _____ aggregate Additional Insureds: 1. City of New York, including its officials and employees, and 2. _____ 3. _____
[OTHER] Art. 22.1.8 <input type="checkbox"/> Railroad Protective Liability _____	\$ _____ per occurrence \$ _____ aggregate Additional Insureds: 1. City of New York, including its officials and employees, and 2. _____ 3. _____

Relating to Article 22 - Insurance

Insurance indicated by a blackened box (■) or by (X) in the ☐ to left will be required under this contract.

Addendum to the General Conditions
January 01, 2014

PART III. Broker's Certification

CERTIFICATION BY BROKER

Page 12 of 22

SCHEDULE A (FOR PUBLICLY BID PROJECTS)

Relating to Article 22 - Insurance

PART IV. Address of Commissioner

Wherever reference is made in Article 7 or Article 22 to documents to be sent to the **Commissioner** (e.g., notices, filings, or submissions), such documents shall be sent to the address set forth below or, in the absence of such address, to the **Commissioner's** address as provided elsewhere in this **Contract**.

ACCO's Office, Insurance Unit

30-30 Thomson Avenue, 4th Floor

Long Island City, New York 11101

SCHEDULE B

Guarantees and Warranties

(Reference: Section 01 7839, Article 2.7 of the DDC Standard General Conditions)

GUARANTY FROM CONTRACTOR

(1) **Contractor's Guaranty Obligation:** 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 the Contract), except for the areas of Work set forth below:

- Roofing, Waterproofing, and Joint Sealant Work. For these types of work, the guarantee period shall be (2) two years.
- Trees and/or Plant Material. For trees and/or plant material furnished and installed, the guarantee period shall be (2) two years. During the guarantee period, the Contractor shall provide all maintenance services set forth in the Specifications.

(2) **Guaranty Period:** The obligation of the Contractor, and its Surety under the Performance Bond, is limited to the period(s) of time specified above.

(3) **Other Provisions Deemed Deleted:** In the event the Specifications and/or the Contract Drawings contain any provisions regarding guaranty requirements, such provisions are deemed deleted and replaced with the guaranty requirements set forth in this Schedule B.

WARRANTY FROM MANUFACTURER

(1) **Contractor's Obligation to Provide Warranties:** The items of material and/or equipment for which manufacturer warranties are required are listed below. For each item of material and/or equipment listed below, the Contractor shall obtain a written warranty from the manufacturer. Such warranty shall provide that the material or equipment is free from defects for the period set forth below and will be replaced or repaired within such specified period. The Contractor shall deliver all required warranties to the Commissioner.

(2) **Required Warranties:**

Specification Number	Material or Equipment	Warranty Period
SECTION 081213	HOLLOW METAL FRAMES	Life of Installation
SECTION 081416	FLUSH WOOD DOORS	Life of Installation
SECTION 087100	DOOR HARDWARE	Seven (7) yrs
SECTION 093000	TILING	Fifteen (15) yrs
SECTION 095113	ACOUSTICAL PANEL CEILINGS	Life of Installation
SECTION 096519	RESILIENT TILE FLOORING	Ten (10) yrs
SECTION 101400	INTERIOR SIGNAGE	Three (3) yrs
SECTION 102113.17	PHENOLIC CORE TOILET COMPARTMENTS	Three (3) yrs
SECTION 102813.13	COMMERCIAL TOILET ACCESSORIES	Fifteen (15) yrs
SECTION 123623.13	PLASTIC-LAMINATE-CLAD COUNTERTOPS	Three (3) yrs
SECTION 220533	HEAT TRACING FOR PLUMBING PIPING	Ten (10) yrs
SECTION 224000	PLUMBING FIXTURES	Fifteen (15) yrs
SECTION 265100	INTERIOR LIGHTING	Fifteen (15) yrs

(3) **Application:** The obligations under the warranty for the periods specified above shall apply only to the manufacturer of the material or equipment, and not to the Contractor or its Surety; provided, however, the Contractor retains responsibility for obtaining all required warranties from the manufacturers and delivering the same to the Commissioner.

(4) **Other Provisions:** The warranty requirements set forth in this Schedule B are also included in the Specifications.

- (a) In the event of any conflict between a warranty requirement set forth in the Specifications and a warranty requirement set forth in Schedule B, the warranty requirement set forth in Schedule B shall take precedence.
- (b) In the event a warranty requirement set forth in the Specifications is omitted from Schedule B, such omission from Schedule B shall have no effect and the Contractor's obligation to provide the manufacturer's warranty, as set forth in the Specifications, shall remain in full force and effect
- (c) In the event a warranty requirement for a particular item of material or equipment is omitted from both Schedule B and the Specifications, and the manufacturer of such item actually provides a warranty, the Contractor shall be obligated to obtain and deliver to the Commissioner the highest level of warranty actually provided by that manufacturer.
- (d) In the event a warranty requirement is provided for a particular item of material or equipment, and such requirement specifies a warranty period that is longer than that which is actually provided by any of the specified manufacturers, the Contractor shall be obligated to obtain and deliver to the Commissioner the highest level of warranty actually provided by any of the specified manufacturers, unless otherwise directed in writing by the Commissioner.
- (e) Unless indicated otherwise Warranties are to take effect on the date of Substantial Completion.

SCHEDULE C

Contract Drawings

(Reference: Section 01 1000, Article 1.5 (A) of the DDC Standard General Conditions)

The Schedule set forth below lists all Contract Drawings for the Project.

Sht. No.	Sheet Title	Add'l Sht. Info.
H001.00	Asbestos Abatement Locations General Notes	
H002.00	Asbestos Abatement Locations Second Floor Plan	
H003.00	Asbestos Abatement Locations Third Floor Plan	
A-000.00	Project Information	
A-001.00	Architectural Site Plan	
A-002.00	Second Floor Demolition Plan	Demo Plan/Schedule/Notes
A-003.00	Third Floor Demolition Plan	Demo Plan/Schedule/Notes
A-100.00	Floor Plans	2nd and 3rd Floor
A-200.00	Enlarged Plans	2nd and 3rd Floor
A-201.00	Toilet Accessories Plan	2nd and 3rd Floor
A-300.00	Wall Systems/Schedules ADA Notes/ANSI Diagrams	Wall systems/Finish Schedule, ADA Notes/ADA Spec Diagrams
A-400.00	Interior Elevations	2nd Floor
A-401.00	Interior Elevations	3rd Floor
A-500.00	Wall Sections / Section Details	
A-501.00	Section Details	
A-800.00	Doors / Signage	Door Types / Door Schedule / Door Details / Room Signage / Signage Schedule
A-900.00	Reflected Ceiling Plans	2nd and 3rd Floor
A-901.00	Ceiling Details HVAC - Notes, Schedule & Details	
M-001.00	HVAC - Demolition Plan	Notes, Schedule & Details Demolition Plan
M-100.00	HVAC - New Work	New Work
EN- 001.00	Energy Analysis Electrical - Notes, Schedule & Details	
E-001.00	Electrical - Lighting Plan	Notes, Schedule & Details Lighting Plan
E-100.00	Electrical - Power Plan	Power Plan
P-001.00	Plumbing - Lead Sheet	Lead Sheet
P-100.00	Plumbing - Floor Plan	Floor Plan
P-200.00	Plumbing - Riser Diagrams	Riser Diagrams
P-300.00	Plumbing - Details	Details

SCHEDULE D

Electrical Motor Control Equipment

(Reference: 01 3506, Article 3.8 of the DDC Standard General Conditions)

NO TEXT

SCHEDULE E
Separation of Trades

NOT USED FOR SINGLE CONTRACTS

SCHEDULE F

Submittals Schedule

(Reference: Section 01 3300 Article 1.5 (C) of the General Conditions)

The Schedule set forth below lists all submittal requirements for the Contract. In the event of any conflict between the Specifications and this Schedule F, Schedule F shall take precedence; provided, however, in the event of an omission from Schedule F (i.e., Schedule F omits either a reference to or information concerning a submittal requirement which is set forth in the Specifications), such omission from Schedule F shall have no effect and the Contractor's submittal obligation, as set forth in the Specifications, shall remain in full force and effect.

CONSULTANT: Huff + Gooden Architects
 TELEPHONE NUMBER: 212-933-0396
 DDC PROJECT MANAGER: Cheri Hawkins
 TELEPHONE NUMBER: 718-391-3419

DATE: _____
 APPROVED: _____
 (DDC RESIDENT ENGINEER/CPM)

REPORT DATE		FMS ID #/PROJECT ID #: CONTRACT REGISTRATION #: PROJECT NAME:				CONTRACT #: TRADE: SHOP DRAWING LOG SHEET #													
SPEC. SECT. #	DESCRIPTION	COORD. WITH CONTR.	SUBMITTAL			SUB. DATE	REQ'D DEL.	FABRIC. TIME	SUBMISSIONS										
			SHOP DWG.	SAMPLE	CAT CUTS				REC'D	RET'D	ACTION	REC'D	RET'D	ACTION	REC'D	RET'D	ACTION		
01 3526	Safety and Health Program	X																	
01 3526	Contractor's Safety Plan	X																	
01 3526	Historic Treatment Plan	X																	
01 5000	Site Plan		X																
01 5000	Reports	X																	
01 5423	NYC DOB Scaffold & Sidewalk Shed Permits	X	X																

TABLE OF CONTENTS
CONTRACT NO. 1 GENERAL CONSTRUCTION

Division	Section Title
----------	---------------

DIVISION 01 - GENERAL REQUIREMENTS

01 1000 SUMMARY

DIVISION 02 - EXISTING CONDITIONS

02 4119 SELECTIVE STRUCTURE DEMOLITION

02 8013 ALLOWANCE FOR INCIDENTAL ASBESTOS

02 8213 ASBESTOS ABATEMENT

DIVISION 05 - METALS

05 5000 METAL FABRICATIONS

DIVISION 06 - WOOD, PLASTICS, AND COMPOSITES

06 1000 ROUGH CARPENTRY

06 1600 SHEATHING

DIVISION 07 - THERMAL AND MOISTURE PROTECTION

07 2100 THERMAL INSULATION

DIVISION 08 - OPENINGS

08 1213 HOLLOW METAL FRAMES

08 1416 FLUSH WOOD DOORS

08 7100 DOOR HARDWARE

DIVISION 09 - FINISHES

09 2216 NON-STRUCTURAL METAL FRAMING

09 2900 GYPSUM BOARD

09 3000 TILING

09 5113 ACOUSTICAL PANEL CEILINGS

09 6519 RESILIENT TILE FLOORING

DIVISION 10 - SPECIALTIES

10 1400 INTERIOR SIGNAGE

10 2113.17 PHENOLIC CORE TOILET COMPARTMENTS

10 2813.13 COMMERCIAL TOILET ACCESSORIES

DIVISION 12 - FURNISHINGS

12 3623.13 PLASTIC-LAMINATE-CLAD COUNTERTOPS

DIVISION 22 - PLUMBING

22 0500	COMMON WORK RESULTS FOR PLUMBING
22 0523	GENERAL – DUTY VALVES FOR PLUMBING PIPING
22 0529	HANGERS AND SUPPORTS FOR PLUMBING, PIPING & EQUIPMENT
22 0533	HEAT TRACING FOR PLUMBING PIPING
22 0700	PLUMBING INSULATION
22 1116	PLUMBING PIPING
22 1119	PLUMBING SYSTEM ACCESSORIES
22 4000	PLUMBING FIXTURES

DIVISION 23 - HEATING VENTILATING AND AIR CONDITIONING

23 0500	COMMON WORK RESULTS FOR HVAC
23 0513	COMMON MOTOR REQUIREMENTS FOR HVAC EQUIPMENT
23 0548	VIBRATION CONTROLS FOR HVAC PIPING & EQUIPMENT
23 0553	IDENTIFICATION FOR HVAC PIPING AND EQUIPMENT
23 0593	TESTING FOR HVAC
23 0593.1	BALANCING FOR HVAC
23 0701	DUCTWORK INSULATION
23 0900	INSTRUMENTATION AND CONTROL FOR HVAC
23 0993	SEQUENCE OF OPERATIONS FOR HVAC CONTROLS
23 3113	METAL DUCTS
23 3300	AIR DUCT ACCESSORIES
23 3301	DAMPERS
23 3416	CENTRIFUGAL HVAC FANS
23 3713	DIFFUSERS, REGISTERS AND GRILLES

DIVISION 26 - ELECTRICAL

26 0500	COMMON WORK RESULTS FOR ELECTRICAL
26 0519	LOWVOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES
26 0526	GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS
26 0529	HANGERS AND SUPPORTS FOR ELECTRICAL SYSTEMS
26 0533	RACEWAY AND BOXES FOR ELECTRICAL SYSTEMS
26 0534	BOXES
26 0553	IDENTIFICATION FOR ELECTRICAL SYSTEMS
26 2413	PANELBOARDS
26 2726	WIRING DEVICES
26 5100	INTERIOR LIGHTING

END OF TABLE OF CONTENTS

SECTION 011000 SUMMARY OF WORK

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:

- 1. Project information.
 - 2. Work covered by Contract Documents.
 - 3. Phased construction.
 - 4. Access to site.
 - 5. Coordination with occupants.
 - 6. Work restrictions.
 - 7. Specification and drawing conventions.
 - 8. Miscellaneous provisions.

- B. Related Requirements:

- 1. Section 015000 "Temporary Facilities and Controls" for limitations and procedures governing temporary use of City of New York facilities.

1.3 PHASED CONSTRUCTION

- A. The Work shall be conducted in two phases, with each phase substantially complete as indicated:

- 1. Phase One (1): Work of this phase shall commence and be substantially complete and ready for occupancy in accordance with the General Conditions. This work consists of renovations to the areas designated at the second floor.
 - 2. Phase Two (2): The remaining Work shall be substantially complete and ready for occupancy at time of Substantial Completion for the Work. This work consists of renovations to the areas designated at the third floor.

- B. Before commencing Work of each phase, submit an updated copy of Contractor's construction schedule showing the sequence, commencement and completion dates, and move-out and -in dates of personnel for all phases of the Work.

1.4 ACCESS TO SITE:

- A. General: Contractor shall have limited use of Project site for construction operations as indicated on Drawings by the Contract limits and as indicated by requirements of this Section.
- B. Use of Site: Limit use of Project site to areas within the Contract limits indicated. Do not disturb portions of Project site beyond areas in which the Work is indicated.
 - 1. Limits: Confine construction operations to the areas indicated in the drawings.
 - 2. Driveways, Walkways and Entrances: Keep loading areas and entrances serving premises clear and available to the City of New York, and Bedford-Stuyvesant Restoration Corporation employees, and emergency vehicles at all times. Do not use these areas for parking or storage of materials.
 - a. Schedule deliveries to minimize use of driveways and entrances by construction operations.
 - b. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.
- C. Condition of Existing Building: Maintain portions of existing building affected by construction operations in a weathertight condition throughout construction period. Repair damage caused by construction operations.

1.5 COORDINATION WITH OCCUPANTS

- A. Full Occupancy: The City of New York and Bedford-Stuyvesant Restoration Corporation will occupy site and existing building(s) during entire construction period. Cooperate with The City of New York and Bedford-Stuyvesant Restoration Corporation during construction operations to minimize conflicts and facilitate usage. Perform the Work so as not to interfere with The City of New York and Bedford-Stuyvesant Restoration Corporation day-to-day operations. Maintain existing exits unless otherwise indicated.
 - 1. Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities. Do not close or obstruct walkways, corridors, or other occupied or used facilities without written permission from the Commissioner and approval of authorities having jurisdiction.
 - 2. Notify The City of New York and Bedford-Stuyvesant Restoration Corporation not less than 72 hours in advance of activities that will affect The City of New York and Bedford-Stuyvesant Restoration Corporation operations.

1.6 WORK RESTRICTIONS

- A. Work Restrictions, General: Comply with restrictions on construction operations.

1. Comply with limitations on use of public streets and with other requirements of authorities having jurisdiction.
 2. On-Site Work Hours: See General Conditions.
- B. Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by The City of New York and Bedford-Stuyvesant Restoration Corporation or others unless permitted under the following conditions and then only after providing temporary utility services according to requirements indicated:
1. Notify the Commissioner not less than two days in advance of proposed utility interruptions.
 2. Obtain Commissioner's written permission before proceeding with utility interruptions.
- C. Noise, Vibration, and Odors: Coordinate operations that may result in high levels of noise and vibration, odors, or other disruption to The City of New York and Bedford-Stuyvesant Restoration Corporation occupancy with the Commissioner.
1. Notify the Commissioner days in advance of proposed disruptive operations.
 2. Obtain Commissioner's written permission before proceeding with disruptive operations.
- D. Nonsmoking Building: Smoking is not permitted within the building or within 25 feet (8 m) of entrances, operable windows, or outdoor-air intakes.
- E. Controlled Substances: Use of controlled substances within the existing building or Project site is not permitted.
- F. Employee Identification: Provide identification tags for Contractor personnel working on Project site. Require personnel to use identification tags at all times.
- G. Employee Screening: Comply with City of New York requirements for drug and background screening of Contractor personnel working on Project site.
1. Maintain list of approved screened personnel with City of New York's representative.

1.7 SPECIFICATION AND DRAWING CONVENTIONS

- A. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:
1. Imperative mood and streamlined language are generally used in the Specifications. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.
 2. Specification requirements are to be performed by Contractor unless specifically stated otherwise.

- B. DDC General Conditions: Requirements of Sections in DDC General Conditions apply to the Work of all Sections in the Specifications.
- C. Drawing Coordination: Requirements for materials and products identified on Drawings are described in detail in the Specifications. One or more of the following are used on Drawings to identify materials and products:
 - 1. Terminology: Materials and products are identified by the typical generic terms used in the individual Specifications Sections.
 - 2. Abbreviations: Materials and products are identified by abbreviations published as part of the U.S. National CAD Standard and scheduled on Drawings.
 - 3. Keynoting: Materials and products are identified by reference keynotes referencing Specification Section numbers found in this Project Manual.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 011000

SECTION 024119 - SELECTIVE STRUCTURE DEMOLITION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:

- 1. Demolition and removal of selected portions of building or structure.
 - 2. Demolition and removal of selected site elements.
 - 3. Salvage of existing items to be reused or recycled.

- B. Related Requirements:

- 1. Section 011000 "Summary" for restrictions on the use of the premises, The City of New York and Bedford-Stuyvesant Restoration Corporation -occupancy requirements, and phasing requirements.

1.3 DEFINITIONS

- A. Remove: Detach items from existing construction and legally dispose of them off-site unless indicated to be removed and salvaged or removed and reinstalled.
- B. Remove and Salvage: Carefully detach from existing construction, in a manner to prevent damage, and deliver to the City of New York ready for reuse.
- C. Remove and Reinstall: Detach items from existing construction, prepare for reuse, and reinstall where indicated.
- D. Existing to Remain: Existing items of construction that are not to be permanently removed and that are not otherwise indicated to be removed, removed and salvaged, or removed and reinstalled.

1.4 MATERIALS OWNERSHIP

- A. Unless otherwise indicated, demolition waste becomes property of Contractor.

- B. Historic items, relics, antiques, and similar objects including, but not limited to, cornerstones and their contents, commemorative plaques and tablets, and other items of interest or value to The City of New York and Bedford-Stuyvesant Restoration Corporation that may be uncovered during demolition remain the property of The City of New York and Bedford-Stuyvesant Restoration Corporation.
 - 1. Carefully salvage in a manner to prevent damage and promptly return to The City of New York and Bedford-Stuyvesant Restoration Corporation.

1.5 PREINSTALLATION MEETINGS

- A. Predemolition Conference: Conduct conference at 247 Herkimer Street, Brooklyn, New York.
 - 1. Inspect and discuss condition of construction to be selectively demolished.
 - 2. Review structural load limitations of existing structure.
 - 3. Review and finalize selective demolition schedule and verify availability of materials, demolition personnel, equipment, and facilities needed to make progress and avoid delays.
 - 4. Review requirements of work performed by other trades that rely on substrates exposed by selective demolition operations.
 - 5. Review areas where existing construction is to remain and requires protection.

1.6 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For refrigerant recovery technician.
- B. Proposed Protection Measures: Submit report, including drawings, that indicates the measures proposed for protecting individuals and property for dust control and for noise control. Indicate proposed locations and construction of barriers.
- C. Schedule of Selective Demolition Activities: Indicate the following:
 - 1. Detailed sequence of selective demolition and removal work, with starting and ending dates for each activity. Ensure The City of New York and Bedford-Stuyvesant Restoration Corporation building manager's and other tenants' on-site operations are uninterrupted.
 - 2. Interruption of utility services. Indicate how long utility services will be interrupted.
 - 3. Coordination for shutoff, capping, and continuation of utility services.
 - 4. Use of elevator and stairs.
 - 5. Coordination of The City of New York and Bedford-Stuyvesant Restoration Corporation continuing occupancy of portions of existing building and of City of New York's partial occupancy of completed Work.
- D. Inventory: Submit a list of items to be removed and salvaged and deliver to the Commissioner prior to start of demolition.

- E. Predemolition Photographs or Video: Submit before Work begins.
- F. Statement of Refrigerant Recovery: Signed by refrigerant recovery technician responsible for recovering refrigerant, stating that all refrigerant that was present was recovered and that recovery was performed according to EPA regulations. Include name and address of technician and date refrigerant was recovered.
- G. Warranties: Documentation indicated that existing warranties are still in effect after completion of selective demolition.

1.7 CLOSEOUT SUBMITTALS

- A. Inventory: Submit a list of items that have been removed and salvaged.
- B. Landfill Records: Indicate receipt and acceptance of hazardous wastes by a landfill facility licensed to accept hazardous wastes.

1.8 QUALITY ASSURANCE

- A. Refrigerant Recovery Technician Qualifications: Certified by an EPA-approved certification program.

1.9 FIELD CONDITIONS

- A. The City of New York and Bedford-Stuyvesant Restoration Corporation will occupy portions of building immediately adjacent to selective demolition area. Conduct selective demolition so The City of New York and Bedford-Stuyvesant Restoration Corporation operations will not be disrupted.
- B. Conditions existing at time of inspection for bidding purpose will be maintained by The City of New York and Bedford-Stuyvesant Restoration Corporation as far as practical.
- C. Notify the Commissioner of discrepancies between existing conditions and Drawings before proceeding with selective demolition.
- D. Hazardous Materials: Refer to Section 028213 – "Asbestos Abatement."
 - 1. Hazardous materials will be removed by The City of New York before start of the Work.
 - 2. If suspected hazardous materials are encountered, do not disturb; immediately notify the Commissioner.
- E. Storage or sale of removed items or materials on-site is not permitted.
- F. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.

1. Maintain fire-protection facilities in service during selective demolition operations.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.
- B. Standards: Comply with ANSI/ASSE A10.6 and NFPA 241.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that utilities have been disconnected and capped before starting selective demolition operations.
- B. Review record documents of existing construction provided by The City of New York and Bedford-Stuyvesant Restoration Corporation. The City of New York and Bedford-Stuyvesant Restoration Corporation does not guarantee that existing conditions are same as those indicated in record documents.
- C. Survey existing conditions and correlate with requirements indicated to determine extent of selective demolition required.
- D. When unanticipated mechanical, electrical, or structural elements that conflict with intended function or design are encountered, investigate and measure the nature and extent of conflict. Promptly submit a written report to the Commissioner.
- E. Survey of Existing Conditions: Record existing conditions by use of measured drawings, preconstruction photographs, and / or preconstruction videotapes.
 1. Inventory and record the condition of items to be removed and salvaged. Provide photographs of conditions that might be misconstrued as damage caused by salvage operations.
 2. Before selective demolition or removal of existing building elements that will be reproduced or duplicated in final Work, make permanent record of measurements, materials, and construction details required to make exact reproduction.

3.2 UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS

- A. Existing Services/Systems to Remain: Maintain services/systems indicated to remain and protect them against damage.
 - 1. Comply with requirements for existing services/systems interruptions specified in Section 011000 "Summary."
- B. Existing Services/Systems to Be Removed, Relocated, or Abandoned: Locate, identify, disconnect, and seal or cap off indicated utility services and mechanical/electrical systems serving areas to be selectively demolished.
 - 1. The City of New York and Bedford-Stuyvesant Restoration Corporation will arrange to shut off indicated services/systems when requested by Contractor.
 - 2. If services/systems are required to be removed, relocated, or abandoned, provide temporary services/systems that bypass area of selective demolition and that maintain continuity of services/systems to other parts of building.
 - 3. Disconnect, demolish, and remove fire-suppression systems, plumbing, and HVAC systems, equipment, and components indicated to be removed.
 - a. Piping to Be Removed: Remove portion of piping indicated to be removed and cap or plug remaining piping with same or compatible piping material.
 - b. Piping to Be Abandoned in Place: Drain piping and cap or plug piping with same or compatible piping material.
 - c. Equipment to Be Removed: Disconnect and cap services and remove equipment.
 - d. Equipment to Be Removed and Reinstalled: Disconnect and cap services and remove, clean, and store equipment; when appropriate, reinstall, reconnect, and make equipment operational.
 - e. Equipment to Be Removed and Salvaged: Disconnect and cap services and remove equipment and deliver to The City of New York and Bedford-Stuyvesant Restoration Corporation.
 - f. Ducts to Be Removed: Remove portion of ducts indicated to be removed and plug remaining ducts with same or compatible ductwork material.
 - g. Ducts to Be Abandoned in Place: Cap or plug ducts with same or compatible ductwork material.
- C. Refrigerant: Remove refrigerant from mechanical equipment to be selectively demolished according to 40 CFR 82 and regulations of authorities having jurisdiction.

3.3 PREPARATION

- A. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.

1. Comply with requirements for access and protection specified in Section 015000 "Temporary Facilities and Controls."
- B. Temporary Facilities: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.
1. Provide protection to ensure safe passage of people around selective demolition area and to and from occupied portions of building.
 2. Provide temporary weather protection, during interval between selective demolition of existing construction on exterior surfaces and new construction, to prevent water leakage and damage to structure and interior areas.
 3. Protect walls, ceilings, floors, and other existing finish work that are to remain or that are exposed during selective demolition operations.
 4. Cover and protect furniture, furnishings, and equipment that have not been removed.
 5. Provide temporary enclosures for dust control, heating, and cooling.
- C. Temporary Shoring: Provide and maintain shoring, bracing, and structural supports as required to preserve stability and prevent movement, settlement, or collapse of construction and finishes to remain, and to prevent unexpected or uncontrolled movement or collapse of construction being demolished.
1. Strengthen or add new supports when required during progress of selective demolition.

3.4 SELECTIVE DEMOLITION, GENERAL

- A. General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:
1. Proceed with selective demolition systematically, from higher to lower level. Complete selective demolition operations above each floor or tier before disturbing supporting members on the next lower level.
 2. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping, to minimize disturbance of adjacent surfaces. Temporarily cover openings to remain.
 3. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
 4. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space before starting flame-cutting operations. Maintain portable fire-suppression devices during flame-cutting operations.
 5. Maintain adequate ventilation when using cutting torches.

6. Remove decayed, vermin-infested, or otherwise dangerous or unsuitable materials and promptly dispose of off-site.
7. Remove structural framing members and lower to ground by method suitable to avoid free fall and to prevent ground impact or dust generation.
8. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
9. Dispose of demolished items and materials promptly.

- B. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by Commissioner, items may be removed to a suitable, protected storage location during selective demolition and cleaned and reinstalled in their original locations after selective demolition operations are complete.

3.5 SELECTIVE DEMOLITION PROCEDURES FOR SPECIFIC MATERIALS

- A. Resilient Floor Coverings: Remove floor coverings and adhesive according to recommendations in RFCI's "Recommended Work Practices for the Removal of Resilient Floor Coverings." Do not use methods requiring solvent-based adhesive strippers.

3.6 DISPOSAL OF DEMOLISHED MATERIALS

- A. General: Except for items or materials indicated to be recycled, reused, salvaged, reinstalled, or otherwise indicated to remain City of New York's property, remove demolished materials from Project site and legally dispose of them in an EPA-approved landfill.
1. Do not allow demolished materials to accumulate on-site.
 2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
 3. Remove debris from elevated portions of building by chute, hoist, or other device that will convey debris to grade level in a controlled descent.
 4. Comply with requirements specified in Section 017419 "Construction Waste Management and Disposal."
- B. Burning: Do not burn demolished materials.
- C. Disposal: Transport demolished materials off City of New York's property and legally dispose of them.

3.7 CLEANING

- A. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before selective demolition operations began.

3.8 SELECTIVE DEMOLITION SCHEDULE

A. See Architectural Drawings

END OF SECTION 024119

SECTION 028013 – GENERAL CONTRACTOR WORK
ALLOWANCE FOR INCIDENTAL ASBESTOS ABATEMENT

1.01 SCOPE FOR ASBESTOS ABATEMENT WORK

- A. The "General Conditions" apply to the work of this Section.
- B. The Asbestos abatement contractor shall remove asbestos containing materials as needed to perform the other work of this Contract when discovered during the course of work. When required, the Asbestos abatement contractor shall replace the ACM with non-asbestos containing materials. An allowance of **\$15,000.00** for the **General Contractor** is herein established for this incidental work when so ordered and authorized by the Commissioner.
- C. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE APPLICABLE PROVISIONS OF THE RULES AND REGULATIONS OF THE ASBESTOS CONTROL PROGRAM AS PROMULGATED BY TITLE 15 CHAPTER 1 OF RCNY AND NEW YORK STATE DEPARTMENT OF LABOR INDUSTRIAL CODE RULE 56 CITED AS 12 NYCRR, PART 56 WHICHEVER IS MORE STRINGENT AS PER LATEST AMENDMENTS TO THESE LAWS AND AS MODIFIED HEREIN BY THESE SPECIFICATIONS.
- D. ALL DISPOSAL OF ASBESTOS CONTAMINATED MATERIAL SHALL BE PER LOCAL LAW 70/85.
- E. THE ASBESTOS ABATEMENT CONTRACTOR'S ATTENTION IS DIRECTED TO THE FACT THAT CERTAIN METHODS OF ASBESTOS ABATEMENT ARE PROTECTED BY PATENTS. TO DATE, PATENTS HAVE BEEN ISSUED WITH RESPECT TO "NEGATIVE PRESSURE ENCLOSURE" OR "NEGATIVE-AIR" OR "REDUCED PRESSURE" AND "GLOVE BAG".
- F. THE ASBESTOS ABATEMENT CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR AND SHALL HOLD THE DEPARTMENT OF DESIGN AND CONSTRUCTION AND THE CITY HARMLESS FROM ANY AND ALL DAMAGES, LOSSES AND EXPENSES RESULTING FROM ANY INFRINGEMENT BY THE ASBESTOS ABATEMENT CONTRACTOR OF ANY PATENT, INCLUDING BUT NOT LIMITED TO THE PATENTS DESCRIBED ABOVE, USED BY THE ASBESTOS ABATEMENT CONTRACTOR DURING PERFORMANCE OF THIS AGREEMENT.
- G. "Asbestos" shall mean any hydrated mineral silicate separable into commercially usable fibers, including but not limited to chrysotile (serpentine), amosite (cummingtonite-grunerite), crocidolite (riebeckite), tremolite, anthrophyllite and actinolite.

- H. Prior to starting, the Asbestos abatement contractor must notify the Commissioner of the Department of Design and Construction if he/she anticipates any difficulty in performing the Work as required by these Specifications. The Asbestos abatement contractor is responsible to prepare and submit all filings, notifications, etc. required by all City, State and Federal regulatory agencies having jurisdiction.

The Asbestos abatement contractor is responsible for submitting the Asbestos Project Notification Form (ACP-7 Form) to the Department of Environmental Protection, Asbestos Control Program, as per Title 15, Chapter 1 of RCNY and to the NYSDOL as per Industrial Code Rule 56.

The Asbestos abatement contractor is responsible for preparing, and submitting Asbestos Variance Application (ACP-9). If a Variance is required, the Asbestos abatement contractor is responsible to retain a NYSDOL Asbestos Project Designer, as defined in Title 15, Chapter 1 of the RCNY to prepare and submit the required variance.

The General contractor is responsible for preparing and submitting an Asbestos Abatement Permit and/or Work Place Safety Plans (WPSP) that may be required for the completion of the Contract or incidental work. If such plans are required, the Asbestos abatement contractor is responsible to retain a NYSDOL Licensed Design Professional as defined in Title 15, Chapter 1 of the RCNY to prepare and submit the required plans.

The Asbestos abatement contractor is responsible for the submission of all required documents to the NYCDEP to acquire the appropriate Asbestos Project Conditional Closeout (ACP-20) and/or Asbestos Project Completion Forms (ACP-21) on a timely basis for the completion of the incidental work encountered under this contract.

The Asbestos abatement contractor will be required to attend an on-site job meeting with the Construction Project Manager prior to the start of work to examine conditions and plan the sequence of operations, etc.

The Asbestos abatement contractor shall have a NYSDOL/NYCDEP Asbestos Supervisor onsite to oversee the work and conduct a final visual inspection as required by both Title 15, Chapter 1 of the RCNY and NYSDOL Industrial Code Rule 56.

- I. All work shall be done during regular working hours unless the Asbestos abatement contractor requests authorization to work in other than regular working hours and such authorization is granted by the Commissioner. (Regular work hours are those hours during which any given facility, in which work is to be done, is customarily open and functioning, normally between the hours of 8:00 A.M. and 4:00 P.M. Monday - Friday.) If such work schedule is authorized by the Commissioner, the work shall be done at no additional cost to the City.

- J. The Commissioner may order that work be done in other than regular working hours as herein by defined and this order may require the Asbestos abatement contractor to pay premium or overtime wages to complete the work. If the Commissioner orders work in other than regular working hours, the Asbestos abatement contractor shall multiply the unit price for that portion of the work requiring premium wages by 1.50 when computing payment in accordance with Paragraph 1.09. All requests for premium payment must be supported by certified payroll sheets and field sheets approved by the Construction Project Manager.

1.02 QUALIFICATIONS OF ASBESTOS ABATEMENT CONTRACTOR

- A. Requirements: The asbestos abatement contractor must demonstrate compliance with the special experience requirements set forth in subparagraphs (1) through (5) below. The asbestos abatement contractor must, submit documentation demonstrating compliance with all listed requirements. Such documentation shall include without limitation, all required licenses, certificates, and documentation.
1. The asbestos abatement contractor must, whether an individual, corporation, partnership, joint venture or other legal entity, must demonstrate for the three year period prior to the work, that it has been licensed by the New York State Department of Labor, as an "Asbestos abatement contractor".
 2. The asbestos abatement contractor must, for the three year period prior to the work, have been in the business of providing asbestos abatement services as a routine part of its daily operations.
 3. The asbestos abatement contractor proposing to do asbestos abatement work must be thoroughly experienced in such work and must provide evidence of having successfully performed and completed in a timely fashion at least five (5) asbestos abatement projects of similar size and complexity. The aggregate cost of these projects must be at least \$250,000.00 in each of the three years.
 4. For each project submitted to meet the experience requirements set forth above, the asbestos abatement contractor must submit the following information for the project; name and location of the project; name title and telephone number of the owner or the owner's representative who is familiar with the asbestos abatement contractor's work, brief description of the work completed as a prime or sub-asbestos abatement contractor; amount of contract or subcontract and the date of completion.
 5. The asbestos abatement contractor must demonstrate that it has the financial resources, supervisory personnel and equipment necessary to carry out the work and to comply with the required performance schedule, taking into consideration other business commitments. The asbestos

abatement contractor must submit such documentation as may be required by the Department of Design and Construction to demonstrate that it has the requisite capacity to perform the required services of this contract.

- B. Insurance Requirements: The asbestos abatement contractor must provide asbestos liability insurance in the following amount: 1 million dollars per occurrence, 2 million dollars aggregate (combined single limit). The City of New York shall be named as an additional insured on such insurance policy.
- C. Throughout the specifications, reference is made to codes and standards which establish qualities and types of workmanship and materials, and which establish methods for testing and reporting on the pertinent characteristics thereof.

1.03 ASBESTOS ABATEMENT CONTRACTOR RESPONSIBILITIES

The Asbestos abatement contractor will visit the subject location within one (1) working day of notification to ascertain actual work required. If the project is identified as being "urgent", then work shall commence no later than 48 hours from the time of notification. In this event, the asbestos abatement contractor shall immediately notify when applicable EPA NESHAPS Coordinator, NYSDOL Asbestos Control Bureau and NYCDEP Asbestos Control Program of start of the work and file the necessary Asbestos Notifications and any applicable Variance Applications with the regulatory agencies cited above.

In the event that the project is not classified as "urgent" the Asbestos abatement contractor shall notify the EPA NESHAPS Coordinator, NYSDOL and NYCDEP by submitting the requisite asbestos project notification forms, postmarked 10 days before activity begins if 260 linear feet or more and/or 160 square feet or more of asbestos containing material will be disturbed.

The following information must be included in the notification:

- A. Name and address of building City or operator;
- B. Project description:
 - 1. Size - square feet, number of linear feet, etc;
 - 2. Age - date of construction and renovations (if known);
 - 3. Use - i.e., office, school, industrial, etc.
 - 4. Scope - repair, demolition, cleaning, etc.
- C. Amount of asbestos involved in work and an explanation of techniques used to determine the amount;

- D. Building location/address, including Block and Lot numbers;
- E. Work schedule including the starting and completion dates;
- F. Abatement methods to be employed;
- G. Procedures for removal of asbestos-containing material;
- H. Name, title and authority of governmental representative sponsoring project.

1.04 WORK INCLUDED IN UNIT PRICE

The Asbestos abatement contractor will be paid a basic unit price of **\$25.00** per square feet for the removal and disposal of asbestos containing material and replacement of the same with non-asbestos containing materials.

Unit price shall include all costs necessary to do the work of this Contract, including but not limited to: labor, materials, equipment, utilities, disposal, insurance, overhead and profit.

1.05 AIR MONITORING – ASBESTOS ABATEMENT CONTRACTOR

- A. "Air Sampling" shall mean the process of measuring the fiber content of a known volume of air collected during a specific period of time. The procedure utilized for asbestos follows the NIOSH Standard Analytical Method 7400 or the provisional transmission electron microscopy methods developed by the USEPA and/or National Institute of Standard and Technology which are utilized for lower detectability and specific fiber identification.
- B. Air monitoring of Asbestos abatement contractor's personnel will be performed in conformance with OSHA requirements, (All costs associated with this work are deemed included in the unit price.).
- C. Qualifications of Testing Laboratory:

The industrial hygiene laboratory shall be a current proficient participant in the American Industrial Hygiene Association (AIHA) PAT Program. The laboratory identification number shall be submitted and approved by the City. The laboratory shall be accredited by the AIHA and New York State Department of Health Environmental Laboratory Approval Program (ELAP).

Note: Work area air testing and analysis before, during and upon completion of work (clearance testing) will be performed by a Third Party Air Monitor under separate Contract with the City.

1.06 THIRD PARTY MONITORING AND LABORATORY

- A. The NYCDDC, at its own expense, will employ the services of an independent Third Party Air Monitoring Firm and Laboratory. The Third Party Air Monitor will perform air sampling activities and project monitoring at the Work Site.
- B. The Laboratory will perform analysis of air samples utilizing Phase Contrast Microscopy (PCM) and/or Transmission Electron Microscopy (TEM).
- C. The Third Party Air Monitoring Firm and the designated Project Monitor shall have access to all areas of the asbestos removal project at all times and shall continuously inspect and monitor the performance of the Asbestos abatement contractor to verify that said performance complies with this Specification. The Third-Party Air Monitor shall be on site throughout the entire abatement operation.
- D. The NYCDDC will be responsible for costs incurred with the Third Party Air Monitoring Firm and laboratory work. Any subsequent additional testing required due to limits exceeded during initial testing shall be paid for by the Asbestos abatement contractor.

1.07 PAYMENT REQUEST DOCUMENTATION

- B. The following information shall be included for each payment request:
 - 1. Description of work performed.
 - 2. Linear footage and pipe sizes involved.
 - 3. Square footage for boiler & breaching insulation removed.
 - 4. Square footage of non pipe and boiler areas removed, patched, enclosed, sealed, or painted.
 - 5. Square footage of encapsulation, sealing, patching, and painting involved.
 - 6. Total cost associated with compliance with the assigned task.
 - 7. Architectural, Electrical, HVAC, Plumbing, etc. work incidental to the Asbestos Abatement Work.
 - 8. A certified copy (in form 4312-39) to the Comptroller or Financial Officer of the New York City to the effect that the financial statement is true.
 - 9. A signed copy (in form 6506q-6) of certificate of compliance with non-discriminatory provisions of the Contract.

GENERAL CONTRACTOR WORK ALLOWANCE FOR INCIDENTAL ASBESTOS ABATEMENT

10. Attach a copy of valid workmen compensation insurance.
 11. Valid asbestos insurance per occurrence.
 12. General liability insurance when required.
- C. Each payment request shall include a grand total for all work completed that billing period, the landfill waste manifests and a copy of waste transporter permit. The Department of Design and Construction will inspect the work performed, review the cost and approve or disapprove requests for payment.
- D. **EXPOSURE LOG:** With this final payment, the Asbestos abatement contractor shall submit a listing of the names and social security numbers of all employees actively engaged in the abatement work of this Contract. This list shall include a summary showing each part of the abatement work in which the employee was engaged and the dates thereof.

1.08 QUANTITY CALCULATIONS

In order to determine the square footage involved for the various pipe sizes of pipe insulation that might be encountered, the following table is to be used.

<u>PIPE INSULATION SIZE O.D.</u>	<u>PIPE SIZE O.D.</u>	<u>SQUARE FOOTAGE PER LINEAR FOOT</u>
2-1/2"	1/2"	0.65
2-3/4"	3/4"	0.72
3"	1"	0.79
3-1/4"	1-1/4"	0.85
3-1/2"	1-1/2"	0.92
4"	2"	1.05
4-1/2"	2-1/2"	1.18
5"	3"	1.31
6"	3-1/4"	1.57
7"	3-1/2"	1.83
8"	4"	2.09
9"	5"	2.36
10"	6"	2.62
12"	8"	3.14
14"	10"	3.67
16"	12"	4.19
18"	14"	4.71

1.09 METHOD OF PAYMENT

Payment shall be made in accordance with Items A through R below. Payment shall be calculated based on the actual quantity of the item performed by the asbestos abatement contractor, times the unit price specified below. Credits may apply to certain times, as specified below.

- A. **REMOVAL, DISPOSAL AND REPLACEMENT OF ASBESTOS CONTAINING PIPE INSULATION:** Actual linear footage, multiplied by the square footage factor listed for the respective pipe size in Section 1.09, multiplied by the unit price in Section 1.05.

EXAMPLE: 100 lin.ft. of 1/2" pipe and 100 lin.ft. of 6" pipe, including elbows, tees. Flanges, etc.

$$100 \times 0.65 = 65 \text{ sq.ft.} \quad 65 \times \text{unit price} = \text{Payment}$$

$$100 \times 2.62 = 262 \text{ sq.ft.} \quad 262 \times \text{unit price} = \text{Payment}$$

- B. **REMOVAL, DISPOSAL AND REPLACEMENT OF BOILER INSULATION:** (all types including Silicate Block and including the removal/replacement of metal jacketing) Payment shall be made at 1.5 times the unit price per square foot.

EXAMPLE: Item B. removal and replacement of 1000 S.F. of boiler insulation (incl. Silicate block)

$$1000 \text{ S.F.} \times (1.5) \times \text{the Unit Price} = \text{Payment}$$

- C. **REMOVAL, DISPOSAL AND REPLACEMENT OF TANK INSULATION:** (all types including removal/replacement of metal jacketing) Payment shall be made at 1.5 times the unit price per square foot.
- D. **REMOVAL, DISPOSAL AND REPLACEMENT OF BOILER UPTAKE, & BREACHING INSULATION:** (all types including stiffening angles and wire lath) Payment shall be made at 2.0 times the unit price per square foot.
- E. **REMOVAL, DISPOSAL AND REPLACEMENT OF DUCT INSULATION:** Payment shall be made at 1.0 times the unit price per square foot.
- F. **REMOVAL, DISPOSAL AND REPLACEMENT OF SOFT ASBESTOS CONTAINING MATERIAL:** (Including sprayed-on fire proofing and sound proofing) Payment shall be made at 1.0 times the unit price per square foot of surface area. Area of irregular surfaces must be calculated and confirmed with DDC representative.
- G. **ACOUSTIC PLASTER REPAIR AND/OR ENCAPSULATION:** Payment shall be made at 0.5 times the unit price per square foot.

- H. **PATCHING OR REPAIR** of items listed in A through F will be paid at 0.33 times the unit price per square foot.
- I. **REMOVAL, DISPOSAL AND REPLACEMENT OF WATERPROOFING ASBESTOS CONTAINING MATERIAL:** (including friable and non-friable waterproofing material from interior and exterior walls, floors, foundations, penetrations, louvers, vents and openings other than windows, doors and skylights) Payment shall be made at 0.5 times the unit price per square foot.
- J. **REMOVAL, DISPOSAL AND REPLACEMENT OF ASBESTOS CONTAINING ELECTRICAL WIRING INSULATION:** (including friable and non-friable wiring insulation) Payment shall be made at 0.33 times the unit price per square foot.
- K. **PAINTING:** Payment shall be made at 0.05 times the unit price per square foot.
- L. **REMOVAL AND DISPOSAL OF ASBESTOS-CONTAINING PLASTER:** from ceilings and walls, including any wire lath and disposal as asbestos containing waste. Payment shall be made at 0.80 times the unit price per square foot.
- M. **REMOVAL AND DISPOSAL OF ASBESTOS-CONTAINING FLOOR TILES, CEILING TILES, TRANSITE PANELS:** (including any adhesive, glue, mastic and/or underlayment) and disposal as asbestos containing waste. Payment shall be made at 0.40 times the unit price per square foot. If multiple layers are discovered, each additional layer shall be paid at 0.20 times the unit price per square foot.
- N. **ADDITIONAL CLEAN UP/HOUSEKEEPING OF WORK AREA:** (excluding pre-cleaning of work area required by regulations) HEPA vacuuming and wet cleaning of asbestos contaminated surface. Payment shall be made at 0.20 times the unit price per square foot. When GLOVE BAG is employed to remove ACM, cost of HEPA vacuuming and wet cleaning of floor area up to 3 feet on each side of glove-bag shall be included in unit price and no extra payment will be made.
- O. **REMOVAL, DISPOSAL OF ASBESTOS-CONTAINING ROOFING MATERIAL:** including mastic, flashing and sealant compound and provide temporary asbestos-free roof covering consisting of one layer of rolled roofing paper sealed with asphaltic roofing compound. Payment shall be made at 0.8 times the unit price per square foot. Credit at a rate of 0.33 times the unit price will be taken for each square foot of temporary roof covering which the Asbestos abatement contractor is directed not to install.
- P. **PICK-UP AND DISPOSAL OF GROSS DEBRIS:** (excluding any waste generated from abatement under Item A-R) at a rate of \$150 per cubic yard for asbestos contaminated waste and \$75 per cubic yard for non-asbestos contaminated waste. This cost includes all labor and material cost associated with work.

- Q. **REMOVAL OF ASBESTOS-CONTAINING BRICK, BLOCK, MORTAR, CEMENT OR CONCRETE:** along with all surfacing materials including wire lath and/or other supporting structures and disposal as ACM waste. Payment shall be made at a rate of \$25.00 per cubic foot of material removed.
- R. **REMOVAL AND DISPOSAL OF ASBESTOS CONTAINING WINDOW/DOOR CAULKING:** including friable and non-friable caulking, weather-stripping, glazing, sealants or other waterproofing materials applied to windows, doors, skylights, etc. Payment shall be made at the rate of \$400.00 per opening regardless of size or configuration. This cost includes labor, consumable materials, set-up/breakdown, removal and disposal, as required.

Note 1: CREDIT: For items listed in A through F, a credit at a rate of 0.33 times the unit price, times the respective multiplier (for each item) will be taken for each square foot of insulation which the asbestos abatement contractor is not directed to reapply.

Note 2: MINIMUM PAYMENT: The minimum payment per call at any individual job sites or various job sites during the same day will be eight hundred dollars (\$800.00).

Note 3: All payments shall be made as described in paragraph 1.09 herein.

Note 4: WORKING HIGHER THAN 12 FEET ABOVE FLOOR LEVEL OR WORK REQUIRING COMPLEX SCAFFOLDING OR CONSTRUCTION WORK PLATFORMS: Provisions are made in this Contract to compensate the Asbestos abatement contractor for work performed in locations that are difficult to access due to work at elevations that are significantly higher than the normal work level. The unit price for these items will be paid at 1.20 times the unit price described in Paragraphs 1.09, A through R for those portions of the work that are more than twelve (12) feet above the grade for that would be judged as the normal working level.

1.10 GUARANTEE

- A. Work performed in compliance with each task shall be guaranteed for a period of one year from the date the completed work is accepted by the Department of Design and Construction.
- B. The Commissioner of The Department of Design and Construction will notify the Asbestos abatement contractor in writing regarding defects in work under the guarantee.

1.11 OCCUPANCY OF SITE NOT EXCLUSIVE

Attention is specifically drawn to the fact that contractors, performing the work of other Contracts, may be brought upon any of the work sites of this Contract. Therefore, the Asbestos abatement contractor shall not have exclusive rights to any site of his work and shall fully cooperate and coordinate his work with the work of other contractors who may

be brought upon any site of the work of this Contract. This paragraph applies to those areas outside the regulated Work Area as defined by Title 15, Chapter I of RCNY.

1.12 SUBMITTALS

A. Pre-Construction Submittals:

1. Attend a pre-construction meeting scheduled by the City of New York Department of Design and Construction. This meeting shall also be attended by a designated representative of the City of New York third party air monitoring firm, facility manager and the Construction Project Manager. At this meeting, the Asbestos abatement contractor shall present three copies of the following items:
 - a. Asbestos abatement contractor's scope of work, work plan and schedule.
 - b. Asbestos project notifications, approved variances and plans to Government Agencies.
 - c. Copies of Permits, clearance and licenses if required.
 - d. Schedules: the Asbestos abatement contractor shall provide to the Construction Project Manager a copy of the following schedules for approval. Once approved, schedules shall be maintained and updated as received. Asbestos abatement contractor shall post a copy of all schedules at the site:
 - (1) A construction schedule stating critical dates of the project including, but not limited to, mobilization, Work Area preparation, demolition, gross removal, fine cleaning, encapsulation, inspections, clearance monitoring, and phase of refinishing and final inspections. The schedule shall be updated biweekly, at a minimum.
 - (2) A schedule of staffing stating number of workers per shift per activity, name and number of supervisor(s) per shift, shifts per day, and total days to be worked.
 - (3) Submit all changes in schedule or staffing to the Construction Project Manager prior to implementation.
 - e. Written description of emergency procedures to be followed in case of injury or fire. This section must include evacuation procedures, source of medical assistance (name and telephone number to nearest

hospital) and procedures to be used for access by medical personnel (examples: first aid squad and physician). NOTE: Necessary Emergency Procedures Shall Take Priority Over All Other Requirements of These Specifications.

- f. Material Safety Data Sheets (MSDS) for encapsulants, sealants, firestopping foam, cleaners/disinfectants, spray adhesive and any and all potentially hazardous materials that may be employed on the project. No work involving the aforementioned will be allowed to proceed until MSDS are reviewed.
- g. Worker Training and Medical Surveillance: The Asbestos abatement contractor shall submit a list of the persons who will be employed by him /her to perform the removal work. Present evidence that workers have received proper training required by the regulations and the medical examinations required by OSHA 29 CFR 1926.1101.
- h. Logs: Specimen copies of daily progress log, visitor's log, and disposal log.
 - (1) The Asbestos abatement contractor shall provide a permanently bound log book of minimum 8-1/2" x 11" size at the entrance to the Worker and Waste Decontamination enclosure system as hereinafter specified. Log book shall contain on title page the project name, name, address and phone number of the Asbestos abatement contractor; name, address and phone number of Asbestos abatement contractor and City's third party air monitoring firm; emergency numbers including, but not limited to local Fire/Rescue Department. Log book shall contain a list of personnel approved for entry into the Work Area.
 - (2) All entries into the log shall be made in non-washable, permanent ink and such pen shall be strung to or otherwise attached to the log to prevent removal from the log-in area. Under no circumstances shall pencil entries be permitted. Any significant events occurring during the abatement project shall be entered into the log. Upon completion of the job, the Asbestos abatement contractor shall submit the logbook containing a day-to-day record of personnel log entries countersigned by the Construction Project Manager every day.
- i. Worker's Acknowledgments: Submit statements signed by each employee that the employee has received training in the proper handling of ACM, understands the health implications and risks

involved; and understands the use and limitations of the respiratory equipment to be used.

B. During Construction Submittals:

1. Security and safety logs showing names of person entering workspace, date and time of entry and exit, record of any accident, emergency evacuation, and any other safety and/or health incident.
2. Progress logs showing the number of workers, supervisors, hours of work and tasks completed shall be submitted daily to the Construction Project Manager.
3. Floor plans indicating Asbestos abatement contractor's current work progress shall be submitted for review by the Construction Project Manager.
4. All Asbestos abatement contractors' air monitoring and inspection results.

C. Project Closeout Submittals:

Upon completion of the project and as a condition of acceptance, the Asbestos abatement contractor shall present two copies of the following items, bound and indexed:

1. Lien Waivers from Asbestos abatement contractor, Sub-Asbestos abatement contractors and Suppliers,
2. Daily OSHA air monitoring results,
3. All Waste Manifests (Asbestos and Construction Debris), seals and disposal logs,
4. Field Sign-In/Sign-Out Logs for every shift,
5. Copies of all Building Department Forms and Permits,
6. A Letter of Compliance stating that all the work on this project was performed in accordance with the Specifications and all applicable Federal, State and Local regulations,
7. All Warranties as stated in the Specifications,
 - a. Fully executed disposal certificates and transportation manifest.
8. Project Record: The Asbestos abatement contractor shall maintain a project record for all small and large asbestos projects. During the project, the

project record shall be kept on site at all times. Upon completion of the project, the project record shall be maintained by the building owner. The project record shall be submitted to DDC as part of the close out documents. The project record shall consist of:

- a. Copies of licenses of all asbestos abatement contractors involved in the project;
- b. Copies of NYCDEP and NYSDOL supervisor and handler certificates for all workers engaged in the project;
- c. Copies of all project notifications and reports filed with NYCDEP, NYSDOL and USEPA for the project, with any amendments or variances;
- d. Copies of all asbestos abatement permits, including associated approved plans and work place safety plan;
- e. A copy of the air sampling log and all air sampling results;
- f. A copy of the abatement asbestos abatement contractor's daily log book;
- g. Copies of all asbestos waste manifests;
- h. A copy of all Project Monitor's Reports (ACP-15).
- i. A copy of each ATR-1 Form completed for the asbestos project (if required).
- j. A copy of each Asbestos Project Conditional Closeout Report (ACP-20) if required.
- k. A copy of the Asbestos Project Completion Form (ACP-21).

1.13 PROTECTION OF FURNITURE AND EQUIPMENT

Cover all furniture and equipment that cannot be removed from Work Areas. Movable furniture and equipment will be removed from Work Areas by the Asbestos abatement contractor prior to start of work. At the conclusion of the work (after final air testing), the Asbestos abatement contractor will remove all plastic covering on walls, floors, furniture, equipment and reinstall furniture and equipment. He shall remove and store all sheaths, curtains and drapes, and reinstall same following final clean up.

1.14 UTILITIES

A. General:

All temporary facilities shall be subject to the approval of the Commissioner. Prior to starting work at any site, locations and/or sketches (if required) of temporary facilities must be submitted to the Construction Project Manager for the required approval.

B. Water:

The Department of Design and Construction will furnish all water needed for construction, at no cost to the Asbestos abatement contractor in buildings under their jurisdiction. However, it is the responsibility of the Asbestos abatement contractor to ensure that hot water is provided for showering in the decontamination unit. The Asbestos abatement contractor shall furnish, install and maintain any needed equipment to meet these requirements at his own expense.

C. Electricity:

The Department of Design and Construction will furnish all electricity needed for construction, at no cost to the Asbestos abatement contractor in a building, under their jurisdiction. The Asbestos abatement contractor is responsible for routing the electric power to the abatement Work Area.

All temporary lighting and temporary electrical service for Work Area shall be in weatherproof enclosures and be ground fault protected.

D. In leased spaces, arrangements for water supplies and electricity must be made with the landlord. However, all such arrangements must be made through and are subject to approval of the Department of Design and Construction. Utilities will be provided at no cost to the Asbestos abatement contractor. However, it is the Asbestos abatement contractor's (or the General contractor's) responsibility to furnish and install a suitable distribution system to the Work Area. This system will be provided at no cost to the City.

1.15 FEES

The Asbestos abatement contractor shall be responsible for any and all fees or charges imposed by Local, State or Federal Law, Rule and Regulation applicable to the work specified herein, including fees or charges which may be imposed subsequent to the date of the Bid opening.

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SECTION 028213

ASBESTOS ABATEMENT

PART 1 – GENERAL

1.01 DESCRIPTION

- A. The Contract Documents are as defined in the "Agreement". The General Conditions shall apply to all Work of this Section.
- B. Work specified herein shall be the removal and disposal of Asbestos-Containing Materials (ACM) and asbestos-contaminated materials from designated areas of the Youth Arts Academy, located at 247 Herkimer Street, Brooklyn, New York, 11216.
- C. The following documents were reviewed and utilized to generate this abatement design specification which serves to locate and quantify the amount of ACM, and asbestos contaminated material, to be abated in support of this project.
 - 1. Set of 100% Construction Documents drawings labeled "Youth Arts Academy Renovation", dated 12/31/13, prepared by Huff + Gooden Architects;
 - 2. Asbestos Survey Report performed Louis Berger and Assoc., P.C. (LBA) dated 1/2/14.
- D. The phasing and scheduling of work for this project shall be coordinated with and approved by the Construction Project Manager and Facility Manager. The Construction Project Manager and Facility Manager will make the final determination on all issues under this Contract covered by this Specification.

1.02 SCOPE OF WORK

- A. The asbestos abatement contractor is to provide all labor, materials, equipment, services, testing, appurtenances, permits and agreements necessary to perform the work required for the abatement of ACM as required by these contract documents. All work shall be performed in accordance with this Specification, EPA regulations, OSHA regulations, New York City Local Law 70, Title 15, Chapter 1 RCNY, New York State Industrial Code 56, NIOSH recommendations, and any other applicable federal, state or local government regulations. Whenever there is a conflict or overlap of the above references, the most stringent provisions are applicable.
- B. The intent of this Specification section is to ensure that the asbestos abatement contractor is responsible for the following:
 - 1. Abatement of all ACM.

ASBESTOS ABATEMENT

2. Cleaning and decontamination of the entire affected area.
 3. Demolition that may be required to access ACM in each area, Asbestos abatement contractor shall dispose of all debris associated with demolition activities as ACM waste.
 4. Removal and disposal of all ACM found within these areas such as floor waterproofing material, black and 1"x1" ceramic floor tile backing, gray.
 5. Provide all scaffolding, platform installation, equipment, tools, transportation and any other equipment required and/or necessary to complete all work described in the Contract Documents.
 6. The Asbestos abatement contractor shall be responsible for and shall include any and all fees or charges imposed by Local, State or Federal Law, Rule or Regulation applicable to the work specified herein, including fees or charges which may be imposed subsequent to the work.
 7. Prior to destructive demolition activities, the DDC may elect to collect bulk samples of assumed asbestos-containing materials and analyze the bulk samples for asbestos content.
- C. The Asbestos abatement contractor shall perform the following work as described below and indicated on the drawings. The drawings are only a diagrammatic representation of the Work Areas and do not constitute the actual quantities of material. Asbestos abatement contractor is responsible for the confirmation of the actual total quantities of the Work.

1. Drawing H-002: Second Floor Plan

- a. Remove and dispose of asbestos-containing floor waterproofing material, black & associated 1"x1" ceramic floor tile backing, gray (under 1"x1" ceramic floor tile) within **Work Area 1** utilizing NYCDEP Full Containment Procedures. Contractor may file a Site Specific Variance to perform this work as well.

Work Area	Removal Procedure	Approximate Square Feet (Sq. Ft.)	Approximate Linear Feet (Ln. Ft.)
I	NYCDEP Full Containment Procedures	350 Sq. Ft. of Floor Waterproofing Material, Black & Associated 1"x1" Ceramic Floor Tile Backing, Gray (under 1"x1" Ceramic Floor Tile)	—

ASBESTOS ABATEMENT

2. Drawing H-003: Third Floor Plan

- b. Remove and dispose of asbestos-containing floor waterproofing material, black (under 1"x1" ceramic floor tile) within **Work Area 2** utilizing NYCDEP Full Containment Procedures. Contractor may file a Site Specific Variance to perform this work as well.

Work Area	Removal Procedure	Approximate Square Feet (Sq. Ft.)	Approximate Linear Feet (Ln. Ft.)
2	NYCDEP Full Containment Procedures	350 Sq. Ft. of Floor Waterproofing Material, Black (under 1"x1" Ceramic Floor Tile)	--

- D. The facility is under the jurisdiction of the City of New York Department of Cultural Affairs. The asbestos abatement contractor shall perform the work of this contract in a manner that will be least disruptive to the normal use of the building.
- E. Asbestos abatement contractor's attention is directed to the fact that patents cover certain methods of asbestos abatement indicated in the specifications. To date, patents have been issued with regard to negative pressure enclosures or negative or reduced pressure and glove-bag.
- F. Asbestos abatement contractor shall be solely responsible for and shall hold the City of New York Department of Design and Construction and the City harmless from, any and all damages, losses and expenses resulting from any infringement by Asbestos abatement contractor of any patent, including but not limited to the patents described above, used by Asbestos abatement contractor during performance of this agreement.
- G. Prior to starting, the asbestos abatement contractor must notify the Commissioner of the City of New York Department of Design and Construction if he anticipates any difficulty in performing the work as directed and required by these Specifications. Asbestos abatement contractor shall be required to attend an on-site job meeting with the Construction Project Manager prior to start of work to examine conditions of the site for removal and plan the sequence for removal operations.
- H. The asbestos abatement contractor shall retain a certified Project Designer for the preparation of an Asbestos Variance Application (ACP-9), if required.
- I. The asbestos abatement contractor shall be responsible for preparing and submitting all filings, notifications, amendments and variances, etc. required by all City, State and Federal regulatory agencies having jurisdiction, at no additional cost to the NYC DDC.

ASBESTOS ABATEMENT

- J. The general contractor shall retain a Registered Design Professional (person licensed and registered to practice the professions of architecture or engineering under the Education Law of the State of New York) to prepare a Work Place Safety Plan (WPSP), if required.
- K. The general contractor shall retain a Registered Design Professional (person licensed and registered to practice the professions of architecture or engineering under the Education Law of the State of New York) to perform final inspections required pursuant to Title 28 of the Administrative Code, including but not limited to special inspections required under Chapter 17 of the Building Code. Such special inspections and A-TR1 forms shall be completed by the Registered Design professional.
- L. For coordination with other Asbestos abatement contractors, see the General Conditions governing all Contracts.
- M. Related Asbestos Removal Work Under Other Contracts:
 - 1. Each asbestos abatement contractor shall be responsible for the removal of incidental asbestos not identified in this section and found prior to or during the Work.
 - 2. Incidental asbestos is defined as ACM that is discovered during the course of their work that must be abated to enable them to perform the work of their Contract.
- N. Work Hours:
 - 1. The asbestos abatement contractor shall establish his work schedule in a way that avoids interference or conflict with the normal functioning of the facility. Work in the evenings shall be done at no additional cost to the City.
 - 2. All work shall be done during regular working hours unless the Asbestos abatement contractor requests authorization to work other than regular working hours and such authorization is granted by the Commissioner (Regular working hours are those during which any given facility in which work is to be done is customarily open and functioning). If such work schedule is authorized by the Commissioner the work shall be done at no additional cost to the City.
 - 3. The order of phases and start dates associated with each will be determined by the Construction Project Manager.
 - 4. Asbestos abatement contractor shall be required to schedule waste transfer during evening hours, when activity within the facility is at a minimum. Evening hours are defined as 6:00 p.m. to 6:00 a.m. Waste transfer must be approved by the Construction Project Manager and Facility Manager.

ASBESTOS ABATEMENT

- O. The following conditions shall apply to all temporary shutdowns of existing services:
1. All temporary lighting and temporary electrical services for use in the Work Area shall be in weather proof enclosures and be ground fault protected and:
 2. Shall be performed at no additional charge to the City.
 3. Shall be performed at times not interfering with the other activities in the building.
 4. Shall be performed only with written consent from the Commissioner and the Facility Manager.
 5. Shall be made through written request to the Commissioner at least 10 days in advance with complete written description of the work to be performed.
- P. Stages of Asbestos Removal Work:
- a. The asbestos abatement contractor will be required to perform the work and it is the intent of this Specification to remove all asbestos containing and asbestos contaminated materials from the Work Area. The asbestos abatement contractor is responsible for verifying all quantities of materials listed.
- Q. Certain equipment in the Work Area may need to remain operational during removal. Therefore, the removal of ACM from this equipment shall be performed as the last removal activities within the Work Area. The Asbestos abatement contractor shall coordinate the scheduling for the removal of ACM on functioning equipment with the Construction Project Manager.

1.03 QUALIFICATIONS OF ASBESTOS ABATEMENT CONTRACTOR

- A. Requirements: The asbestos abatement contractor must demonstrate compliance with the special experience requirements set forth in subparagraphs (1) through (5) below. The asbestos abatement contractor must submit documentation demonstrating compliance with all listed requirements. Such documentation shall include without limitation, all required licenses, certificates, and documentation.
1. The asbestos abatement contractor must, whether an individual, corporation, partnership, joint venture or other legal entity, demonstrate for the three year period prior to the work, that it has been licensed by the New York State Department of Labor, as an "Asbestos Abatement Contractor".

ASBESTOS ABATEMENT

2. The asbestos abatement contractor must, for the three year period prior to the work, have been in the business of providing asbestos abatement services as a routine part of its daily operations.
 3. The asbestos abatement contractor proposing to do asbestos abatement work must be thoroughly experienced in such work and must provide evidence of having successfully performed and completed in a timely fashion at least five (5) asbestos abatement projects of similar size and complexity. The aggregate cost of these projects must be at least \$1,000,000 in each of the three years.
 4. For each project submitted to meet the experience requirements set forth above, the asbestos abatement contractor must submit the following information for the project; name and location of the project; name title and telephone number of the owner or the owner's representative who is familiar with the asbestos abatement contractor's work; brief description of the work completed as a prime or sub-asbestos abatement contractor; amount of contract or subcontract and the date of completion.
 5. The asbestos abatement contractor must demonstrate that it has the financial resources, supervisory personnel and equipment necessary to carry out the work and to comply with the required performance schedule, taking into consideration other business commitments. The asbestos abatement contractor must submit such documentation as may be required by the Department of Design and Construction to demonstrate that it has the requisite capacity to perform the required services of this contract.
- B. Throughout the specifications, reference is made to codes and standards which establish qualities and types of workmanship and materials, and which establish methods for testing and reporting on the pertinent characteristics thereof. Provide materials or workmanship that meet or exceed the specifically named codes or standards where required by these specifications.
- C. Site Investigation: Asbestos abatement contractor shall inspect all the specifications and related drawings, and will investigate and confirm the site conditions affecting the work, including, but not limited to:
1. Physical considerations and conditions of both the material and structure. These considerations include any obstacles or obstructions encountered in accessing or removing the material.
 2. Handling, storage, transportation and disposal of the material.
 3. Availability of qualified and skilled labor.
 4. Availability of utilities.

ASBESTOS ABATEMENT

5. Exact quantities of all materials to be disturbed and/or removed.

1.04 WORK BY OTHERS

The City reserves the right during the term of this Contract to have work performed on asbestos abatement projects by other asbestos abatement contractors as the situation warrants.

1.05 DEFINITIONS

- A. General Explanation: Certain terms used in this Specification Section are defined below. Definitions and explanations of this Specification Section are not necessarily complete or exclusive, but are general for the Work to the extent they are not stated more explicitly in another element of the Contract Documents.
- B. Definitions in General Use:
 1. Approve: Where used in conjunction with Engineer's response to submittals, requests, applications, inquiries, reports and claims by Asbestos abatement contractor, the meaning of term "approved" will be held to limitations of Engineer's responsibilities and duties as specified in Contract Documents. In no case will "approval" by Engineer be interpreted as a release of Asbestos abatement contractor from responsibilities to fulfill requirements of Contract Documents.
 2. Directed, Requested, etc.: Where not otherwise explained, terms such as "directed," "requested," "authorized," "selected," "approved," "required," "accepted," and "permitted" mean "directed by Engineer," "requested by Engineer," and similar phrases. However, no such implied meaning will be interpreted to extend Engineer's responsibility into Asbestos abatement contractor's responsibility for construction supervision.
 3. Furnish: Except as otherwise defined in greater detail, term "furnish" is used to mean supply and deliver to project site, ready for unloading, unpacking, assembly, installation, etc., as applicable in each instance.
 4. Indicated: The term "indicated" is a cross-reference to graphic representations, notes or schedules on Drawings, to other paragraphs or schedules in the Specifications, and to similar means of recording requirements in Contract Documents. Where terms such as "shown," "noted," "scheduled," and "specified" are used in lieu of "indicated," it is for purpose of helping reader locate cross-reference, and no limitation of location is intended except as specifically noted.

ASBESTOS ABATEMENT

5. Install: Except as otherwise defined in greater detail, term "install" is used to describe operations at Project site including unloading, unpacking, assembly, erection, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning and similar operations, as applicable in each instance.
6. Installer: The term "installer" is defined as the entity (person or firm) engaged by the asbestos abatement contractor, or its sub-asbestos abatement contractor for performance of a particular unit of work at Project site, including installation, erection, application and similar required operations. It is a general requirement that such entities (installers) be expert in operations they are engaged to perform.
7. Provide: Except as otherwise defined in greater detail, term "provide" means furnish and install, complete and ready for intended use, as applicable in each instance.
8. Third-Party Air Monitor: The term "Third-Party Air Monitor" is defined as an entity engaged by City and Construction Project Manager to perform specific inspections or tests of the work, either at Project site or elsewhere; and to report and (if required) interpret results of those inspections or tests.

C. Definitions Relative to Asbestos Abatement:

1. Abatement: Any and all procedures physically taken to control fiber release from asbestos-containing materials. This includes removal, encapsulation, enclosure, cleanup and repair.
2. Adequately Wet: The complete penetration of a material with amended water to prevent the release of particulates. If visible emissions are observed coming from asbestos-containing material, then the material has not been adequately wetted. However, the absence of visible emissions is not evidence of being adequately wet. ACM must be fully penetrated with the wetting agent in order to be considered adequately wet. If the ACM being abated is resistant to amended water penetration, wetting agent shall be applied to the material prior to and during removal as necessary to minimize fiber release.
3. Aggressive Sampling: Method of sampling in which the individual collecting the air sample creates activity by the use of mechanical equipment during the sampling period to stir up settled dust and simulate activity in that area of the building.
4. AHERA: Asbestos Hazard Emergency Response Act of 1986
5. AIHA: American Industrial Hygiene Association.

ASBESTOS ABATEMENT

6. **Airlock:** System for permitting entrance and exit while restricting air movement between a contaminated area and an uncontaminated area. It consists of two curtained doorways separated by a distance of at least three feet such that one passes through one doorway into the airlock, allowing the doorway sheeting to overlap and close off the opening before proceeding through the second doorway, thereby preventing flow-through contamination.
7. **Air Sampling:** Process of measuring the fiber content of a known volume of air collected during a specific period. The procedure utilized for asbestos follows the NIOSH Standard Analytical Method 7400, or the provisional transmission electron microscopy methods developed by the US EPA which is utilized for lower detection levels and specific fiber identification.
8. **Ambient Air Monitoring:** "Ambient air monitoring" shall mean measurement or determination of airborne asbestos fiber concentrations outside but in the general vicinity of the worksite.
9. **Amended Water:** Water to which a surfactant has been added.
10. **ANSI:** American National Standards Institute
11. **Area Air Sampling:** Any form of air sampling or monitoring where the sampling device is placed at some stationary location.
12. **Asbestos:** Any hydrated mineral silicate separable into commercially usable fibers, including but not limited to chrysotile (serpentine), amosite (cummingtonite-grunerite), crocidolite (riebeckite), tremolite, anthophyllite and actinolite.
13. **Asbestos-Containing Material (ACM):** Asbestos or any material containing more than one-percent asbestos.
14. **Asbestos-Containing Waste Material:** ACM, asbestos-contaminated objects or debris associated with asbestos abatement requiring disposal.
15. **Asbestos-Contaminated Objects:** Any objects which have been contaminated by asbestos or asbestos-containing material.
16. **Asbestos Assessment Report:** "Asbestos Assessment Report" shall mean the "Form ACP-5" form, as approved by NYCDEP, by which a NYCDEP-certified asbestos investigator certifies that a building or structure (or portion thereof) is free of ACM or the amount of ACM to be abated constitutes a minor project.

ASBESTOS ABATEMENT

17. Asbestos Handler: Individual who disturbs, removes, repairs, or encloses asbestos material. This individual shall have completed approved training course(s) and be in possession of certification issued by NYCDEP and NYSDOL.
18. Asbestos Handler Supervisor: Individual who supervises the handlers during an asbestos project and ensures that proper asbestos abatement procedures as well as individual safety procedures are being adhered to. This individual shall have completed approved training course(s) and be in possession of certification issued by NYCDEP and NYSDOL.
19. Asbestos Investigator: An individual certified by NYCDEP as having successfully demonstrated his or her ability to identify the presence of and evaluate the condition of asbestos in a building or structure.
20. Asbestos Project: Any form of work performed in a building or structure which will disturb (e.g., remove, enclose, encapsulate) more than 25 linear feet or more than 10 square feet of asbestos-containing material.
21. ASTM: American Society for Testing and Materials.
22. Asbestos Project Notification: The "Form ACP-7" asbestos project notification form as approved by DEP.
23. Authorized Visitor: Authorized visitor shall mean the building owner and his/her representative, and any representative of a regulatory or other agency having jurisdiction over the project.
24. Building Owner: Person in whom legal title to the premises is vested unless the premises are held in land trust, in which instance Building Owner means the person in whom beneficial title is vested.
25. Building Materials: Any and all manmade materials, including but not limited to interior and exterior finishes, equipment, bricks, mortar, concrete, plaster, roofing, flooring, caulking, sealants, tiles, insulation, and outdoor paving such as sidewalks, paving tiles and asphalt.
26. Certified Industrial Hygienist (CIH): Individual with a minimum of five years experience as an industrial hygienist and who has successfully completed both levels of the examination administered by the American Board of Industrial Hygiene and who is currently certified by that board.
27. Certified Safety Professional (CSP): Individual having a bachelor's degree from an accredited college or university and a minimum of four years experience as a safety professional and who has successfully completed both levels of the examination administered by the Board of Certified Safety Professionals and who is currently certified by that board.

ASBESTOS ABATEMENT

28. Chain of Custody: "Chain of Custody" shall mean the form or set of forms that document the collection and transfer of a sample.
29. City: City of New York
30. Clean Room: An uncontaminated area or room that is part of worker decontamination enclosure system with provisions for storage of workers' street clothes and protective equipment.
31. Clearance Air Monitoring: Employment of aggressive sampling techniques with a volume of air collected to determine the airborne concentration of residual fibers and shall be performed as the final abatement activity.
32. Commissioner: shall mean the head of the Agency that has entered into this contract or his/her duly authorized representative.
33. Competent Person: Shall mean the designated person as defined by OSHA in 29 CFR1926.1101.
34. Curtained Doorway: Device that consists of at least three overlapping sheets of fire retardant plastic over an existing or temporarily framed doorway. One sheet shall be secured at the top and left side, the second sheet at the top and right side, and the third sheet at the top and left side. All sheets shall have weights attached to the bottom to ensure that the sheets hang straight and maintain a seal over the doorway when not in use.
35. Decontamination Enclosure System: Series of connected rooms, separated from the Work Area and from each other by air locks, for the decontamination of workers, materials, waste containers, and equipment.
36. Demolition: The dismantling or razing of a building, including all operations incidental thereto (except for asbestos abatement activities), for which a demolition permit from the New York City Department of Buildings is required.
37. NYCDEP or DEP: The New York City Department of Environmental Protection.
38. Disturb: Any action taken which may alter, change, or stir, such as but not limited to the removal, encapsulation, enclosure or repair of asbestos-containing material.
39. DOB: The New York City Department of Buildings.

ASBESTOS ABATEMENT

40. Egress: A continuous and unobstructed path of vertical and horizontal egress travel from any occupied portion of a building or structure to a public way. A means of egress consists of three separate and distinct parts: the exit access, the exit and the exit discharge.
41. ELAP: Environmental Laboratory Approval Program administered by the New York State Department of Health.
42. Encapsulant (sealant) or Encapsulating Agent: Liquid material which can be applied to ACM and which temporarily controls the possible release of asbestos fibers from the material either by creating a membrane over the surface (bridging encapsulant) or by penetrating into the material and binding its components together (penetrating encapsulant). A thin coat of lockdown encapsulant shall be applied to all surfaces in the work area which were not the subject of removal or abatement, including the cleaned layer of the surface barriers, but excepting sprinklers, standpipes, and other active elements of the fire suppression system.
43. Encapsulation: The coating or spraying of asbestos-containing material encapsulant. A thin coat of lockdown encapsulant shall be applied to all surfaces in the work area which were not the subject of removal or abatement, including the cleaned layer of the surface barriers, but excepting sprinklers, standpipes, and other active elements of the fire suppression system.
44. Enclosure: Construction of airtight walls and/or ceilings between ACM and the facility environment, or around surfaces coated with ACM, or any other appropriate procedure as determined by the NYCDEP which prevents the release of asbestos fibers.
45. EPA or USEPA: United States Environmental Protection Agency.
46. Equipment Room: Contaminated area or room that is part of the worker decontamination enclosure system with provisions for the storage of contaminated clothing and equipment.
47. Exit: That portion of a means of egress system which is separated from other interior spaces of a building or structure by fire-resistance-rated construction to provide a protected path of egress travel between the exit access and the exit discharge.
48. FDNY: The Fire Department of the City of New York.

ASBESTOS ABATEMENT

49. Fiber: An acicular single crystal or a similarity elongated polycrystalline aggregate which displays some resemblance to organic fibers by having such properties as flexibility, high aspect ratio, silky luster, axial lineation, and others, and which has attained its shape primarily through growth rather than cleavage.
50. Fixed Object: A unit of equipment, furniture, or other item in the work area which cannot be removed from the work area. Fixed objects shall include equipment, furniture, or other items that are attached, in whole or in part, to a floor, ceiling, wall, or other building structure or system or to another fixed object and cannot be reasonably removed from the work area. Fixed objects shall also include pipes and other equipment inside the work area which are not the subject of the asbestos project. Active fire suppression system components shall not be considered fixed objects.
51. Glovebag technique: shall mean a method for removing asbestos-containing material from heating, ventilation and air conditioning (HVAC) ducts, short piping runs, valves, joints, elbows, and other nonplanar surfaces. The glovebag assembly is a manufactured device consisting of a large bag (constructed of at least 6-mil transparent plastic), two inward-projecting long sleeve gloves, one inward-projecting waterwand sleeve, an internal tool pouch, and an attached, labeled receptacle for asbestos waste. The glovebag is constructed and installed in such a manner that it surrounds the object or area to be decontaminated and contains all asbestos fibers released during the removal process.
52. HEPA-Filter: High efficiency particulate air filter capable of trapping and retaining 99.97 percent of particles (asbestos fibers) greater than 0.3 micrometers mass median aerodynamic equivalent diameter.
53. HEPA vacuum equipment: "HEPA vacuum equipment" shall mean vacuuming equipment with a HEPA filter.
54. Holding Area: Chamber in the equipment decontamination enclosure located between the washroom and an uncontaminated area.
55. Homogeneous Work Area: Portion of the Work Area that contains one type of ACM and/or where one type of abatement is used.
56. Industrial Hygiene: Science and art devoted to the recognition, evaluation, and control of those environmental factors or stresses, arising in or from the work place, which may cause sickness, impaired health and well being, or significant discomfort and inefficiency among worker or among the citizens of the community.

ASBESTOS ABATEMENT

57. Industrial Hygienist: Individual having a college or university degree or degrees in Engineering, Chemistry, Physics or Medicine, or related Biological Sciences who, by virtue of special studies and training, has acquired competence in industrial hygiene. Such special studies and training must have been sufficient in all of the above cognate sciences to provide the abilities:
 - a. To recognize the environmental factors and to understand their effect on people and their well being; and
 - b. To evaluate, on the basis of experience and with the aid of quantitative measurement techniques, the magnitude of these stresses in terms of ability to impair people's health and well being; and
 - c. To prescribe methods to eliminate, control, or reduce such stresses when necessary to alleviate their efforts.
58. Isolation Barrier: The construction of partitions, the placement of solid materials, and the plasticizing of apertures to seal off the work place from surrounding areas and to contain asbestos fibers in the work area.
59. Large Asbestos Project: Asbestos project involving the disturbances (e.g., removal, enclosure, encapsulation) of 260 linear feet or more of ACM or 160 square feet or more of ACM.
60. Log: An official record of all activities that occurred during the project. At a minimum, the log shall identify the building owner, agent, asbestos abatement contractor, and workers, and other pertinent information including daily activities, cleanings and waste transfers, names and certificate numbers of asbestos handler supervisors and asbestos handlers; results of inspections of decontamination systems, barriers, and negative pressure ventilation equipment; summary of corrective actions and repairs; work stoppages with reason for stoppage; manometer readings at least twice per work shift; daily checks of emergency and fire exits and any unusual events.
61. Minor Project: A project involving the disturbance (e.g., removal, enclosure, encapsulation, repair) of 25 linear feet or less of asbestos containing material or 10 square feet or less of asbestos containing material.
62. Movable Object: Unit of equipment or furniture in the Work Area that can be removed from the Work Area.
63. Negative Air Pressure Equipment: Portable local exhaust system equipped with HEPA filtration. The system shall be capable of creating a negative pressure differential between the outside and inside of the Work Area.

ASBESTOS ABATEMENT

- 64. NESHAPS: National Emission Standards for Hazardous Air Pollutants.
- 65. NFPA: The National Fire Protection Association.
- 66. NIOSH: National Institute for Occupational Safety and Health.
- 67. DEP or NYCDEP: New York City Department of Environmental Protection
- 68. NYSDOL: New York State Department of Labor.
- 69. NYSDOL ICR 56: "NYSDOL ICR 56" shall mean Part 56 of the Official Compilation of Codes, Rules and Regulations of the State of New York or 12 NYCRR Part 56.
- 70. NYSDOH: The New York State Department of Health.
- 71. Obstruction: The blocking of a means of egress with any temporary structure or barrier. A double layer of fire-retardant 6-mil polyethylene sheeting shall not be considered an obstruction when it is prominently marked as an exit with photo luminescent signage or paint and cutting tools (knife, razor) are attached to the work area side of the sheeting for use in the event that the sheeting must be cut to permit egress. A corridor shall not be considered obstructed when there is a clear path measuring at least three (3) feet wide.
- 72. Occupied Area: Area of the work site where abatement is not taking place and where personnel or occupants normally function or where workers are not required to use personal protective equipment.
- 73. OSHA: Occupational Safety and Health Administration.
- 74. Outside air: "Outside air" shall mean the air outside the work place.
- 75. Person: Individual, partnership, company, corporation, association, firm, organization, governmental agency, administration, or department, or any other group of individuals, or any officer or employee thereof.
- 76. Personal Air Monitoring: Method used to determine employees' exposure to airborne asbestos fibers. The sample is collected outside the respirator in the worker's breathing zone.
- 77. Personal Protective Equipment (PPE): Appropriate protective clothing, gloves, eye protection, footwear, and head gear.
- 78. Phase Contrast Microscopy (PCM): The measurement protocol for the assessment of the fiber content of air. (NIOSH Method 7400).

ASBESTOS ABATEMENT

79. Physician: Person licensed or otherwise authorized under Article 131 Section 65.22 of the New York State Education Law.
80. Plasticize: To cover floors and walls with fire retardant plastic sheeting as herein specified or by using spray plastics as acceptable to the Department.
81. Polarized Light Microscopy (PLM): The measurement protocol for the assessment of the asbestos content of bulk materials. (Interim Method for the Determination of Asbestiform Materials in Bulk Insulation Samples- 40 CFR Part 763, Subpart F, Appendix A as amended on September 1, 1982)
82. Project Designer: A person who holds a valid Project Designer Certificate issued by the New York State Department of Labor.
83. Project Monitor: A person who holds a valid Project Monitor Certificate issued by the New York State Department of Labor.
84. Qualitative Fit Test: Individual test subject's responding (either voluntarily or involuntarily) to a chemical challenge outside the respirator face-piece. Acceptable methods include irritant smoke test, odorous vapor test, and taste test.
85. Quantitative Fit Test: Exposing the respiratory wearer to a test atmosphere containing an easily detectable, nontoxic aerosol, vapor or gas as the test agent. Instrumentation, which samples the test atmosphere and the air inside the face-piece of the respirator, is used to measure quantitatively the leakage into the respirator. There are a number of test atmospheres, test agents, and exercises to perform during the test.
86. Registered Design Professional: A person licensed and registered to practice the professions of architecture or engineering under the Education Law of the State of New York.
87. Removal: Stripping of any asbestos- containing materials from surfaces or components of a facility or taking out structural components in accordance with 40 CFR 61 Subparts A and M.
88. Renovation: An addition or alteration or change or modification of a building or the service equipment thereof, that is not classified as an ordinary repair as defined in §27-125 of the Administrative Code of the City of New York.
89. Repair: Corrective action using specified work practices (e.g., glovebag, plastic tent procedures, etc.) to minimize the likelihood of fiber release from minimally damaged areas of ACM.

ASBESTOS ABATEMENT

- 90. Replacement material: Any material used to replace ACM that contains less than .01 percent asbestos.
- 91. Shift: A worker's, or simultaneous group of workers', complete daily term of work.
- 92. Shower Room: Room between the clean room and the equipment room in the worker decontamination enclosure with hot and cold running water controllable at the tap and arranged for complete showering during decontamination.
- 93. Small Asbestos Project: Asbestos project involving the disturbance (e.g., removal, enclosure, encapsulation) of more than 25 and less than 260 linear feet of ACM or more than ten and less than 160 square feet of ACM.
- 94. Staging Area: Work Area near the waste transfer airlock where containerized asbestos waste has been placed prior to removal from the Work Area.
- 95. Strip: To remove asbestos materials from any part of the facility.
- 96. Structural Member: Load-supporting member of a facility, such as beams and load-supporting walls, or any non-load-supporting member, such as ceiling and non-load-supporting walls.
- 97. Surface barriers: The plasticizing of walls, floors, and fixed objects within the work area to prevent contamination from subsequent work.
- 98. Surfactant: Chemical wetting agent added to water to improve penetration.
- 99. Transmission Electron Microscopy (TEM): The measurement protocol for the assessment of the asbestos fiber content of air. Interim Transmission Electron Microscopy Analytical Methods-40 CFR Part 763, Subpart E, Appendix A.
- 100. Visible Emissions: Emissions containing particulate material that are visually detectable without the aid of instruments.
- 101. Washroom: Room between the Work Area and the holding area in the equipment decontamination enclosure system where equipment and waste containers are wet cleaned and/or HEPA-vacuumed prior to disposal.
- 102. Waste decontamination enclosure system: "Waste decontamination enclosure system" shall mean the decontamination enclosure system designated for the controlled transfer of materials and equipment, consisting of a washroom and a holding area.

ASBESTOS ABATEMENT

103. Wet Cleaning: "Wet cleaning" shall mean the removal of asbestos fibers from building surfaces and objects by using cloths, mops, or other cleaning tools which have been dampened with water.
104. Wet methods: "Wet methods" shall mean the use of amended water or removal encapsulants to minimize the generation of fibers during ACM disturbance.
105. Work Area: Designated rooms, spaces, or areas of the building or structure where asbestos abatement activities take(s) place.
106. Worker Decontamination Enclosure System: Portion of a decontamination enclosure system designed for controlled passage of workers and authorized visitors, consisting of a clean room, a shower room, and an equipment room separated from each other and from the Work Area by airlocks and curtained doorways.
107. Work Place: The work area and the decontamination enclosure system(s).
108. Work Place Safety Plan: Construction documents prepared by a registered design professional and submitted for review by DEP in order to obtain an asbestos abatement permit. Such plan shall include, but not be limited to, plans, sections, and details of the work area clearly showing the extent, sequence, and means and methods by which the work is to be performed.
109. Work Site: Premises where abatement activity is being performed. May be composed of one or more Work Areas.

1.06 STANDARD OPERATING PROCEDURES

- A. Develop and implement a written standard procedure for abatement work to ensure maximum protection and safeguard from asbestos exposure of the workers, visitors, employees, public, and environment.
- B. TELEPHONE PAGING DEVICE

The asbestos abatement contractor or his authorized representative shall, at all times during the normal workday or during periods of overtime work under this Contract, carry a digital telephone paging device ("Beeper") and/or cellular telephones which can be activated by a telephone number in the 212 or 646 or 718 or 917 or 929 area code. He shall supply the Department of Design and Construction with the activation number for the device and he is liable to respond back to the calls from DDC within the next one (1) hour period after he receives calls from DDC. The cost to the asbestos abatement contractor for this device and all charges accruing thereto is deemed included in the work.

ASBESTOS ABATEMENT

C. The standard operating procedure shall ensure:

1. Tight security from unauthorized entry into the workspace.
2. Restriction of asbestos abatement contractor's personnel to the immediate Work Area and access/egress routes.
3. Donning of proper protective clothing and respiratory protection prior to entering the Work Area.
4. Safe work practices in the work place, including provisions for inter-room communications, exclusion of eating, drinking, smoking, or in any way breaking the respiratory protection.
5. Proper exit practices from the work space to the outside through the showering and decontamination facilities.
6. Removing asbestos in a way that minimizes release of fibers.
7. Packing, labeling, loading, transporting, and disposing of contaminated material in a way that minimizes exposure and contamination.
8. Emergency evacuation procedures, for medical or safety situations, to minimize the potential exposure to airborne asbestos fibers for emergency personnel, building occupants, and building environment.
9. Safety from accidents in the workspace, especially from electrical shocks, fall hazards associated with scaffolding, slippery surfaces, and entanglements in loose hoses and equipment.
10. Provisions for effective supervision, air monitoring and personnel monitoring for exposure during the work.
11. Engineering controls that minimize exposure to fibers within the workspace.
12. The asbestos abatement contractor shall provide a 24-hour fire watch throughout the entire term of the project, to protect against fire and unauthorized entry into the workspace. Fire watch shall be performed by an individual who is a certified asbestos worker capable of entering the Work Area for regular inspections.

D. Provide an Asbestos Handler Supervisor to provide continuous supervision of all work, and to be responsible for the following:

1. Ensure that individuals are using proper personal protective equipment, are trained in its use and hold valid NYCDEP and NYSDOL Asbestos Handler certificates

ASBESTOS ABATEMENT

2. Maintain entry log records and ensure that they are recorded in accordance with the provisions of Title 15, Chapter 1 of RCNY and NYSDOL ICR 56.
3. Surveillance of the Work Areas at a minimum of once per work shift or as required by Title 15, Chapter 1 of RCNY and NYSDOL ICR 56 -7.3, to ensure the integrity of work place isolation, negative pressure equipment and workers personal protective equipment is not torn or ripped and that respiratory protection is worn at all times.
4. Ensure that sufficient personal protective equipment is stored in the clean room.
5. Take precautions to prevent heat stress. Precautions include, but are not limited to, selecting lightweight protective clothing, reducing the work rate, and providing adequate fluid breaks.
6. Perform work area inspection with project monitor prior to the commencement of final clearance air monitoring.
7. The asbestos abatement contractor shall retain the asbestos handler supervisor to perform a visual inspection prior to the post-abatement clearance air monitoring to confirm that all containerized waste has been removed from work and holding areas and there is no visible ACM debris or residue on or about all abated surfaces.

E. ENGINEERING CONTROLS

1. The 8-hour time weighted average airborne concentration of fibers to which any passerby may be exposed shall not exceed 0.01 fibers per cubic centimeter of air when fibers have a physical dimension longer than 5 micrometers as determined by the method prescribed in these Specifications.
2. All asbestos projects shall utilize negative pressure ventilation equipment.
 - a. The asbestos abatement contractor shall use a manometer to document the pressure differential. The asbestos abatement contractor shall install and make the manometer operational once the negative pressure has been established in the work area. Magnahelic manometers shall be calibrated at least every six months and a copy of the current calibration certification shall be available at the work site.

ASBESTOS ABATEMENT

3. Negative pressure ventilation equipment shall be installed and operated to provide at least one air change in the work area every 15 minutes. Where there are no floor or wall barriers because floor or wall material is being abated, there shall be at least one air change in the work area every ten minutes.
4. The negative pressure ventilation equipment shall operate continuously, 24 hours a day, from the establishment of isolation barriers through successful clearance air monitoring. If such equipment shuts off, adjacent areas shall be monitored for asbestos fibers.
5. A static negative air pressure of 0.02 inches (minimum) water column shall be maintained at all times in the work place during abatement to ensure that contaminated air in the Work Area does not filter back to uncontaminated areas.
6. If the contaminated area of an asbestos project covers the entire floor of the affected building, or an area greater than 15,000 square feet on any given floor, the installation of a negative air cut off switch or switches shall be required at a single location outside the work place, such as inside a stairwell, or at a secured location in the ground floor lobby when conditions warrant. The required switch or switches shall be installed by a licensed electrician pursuant to a permit issued by the Department of Buildings. If negative pressure ventilation equipment is used on multiple floors, the cut off switch shall be able to turn off the equipment on all floors.
7. On loss of negative pressure or electric power to the negative pressure ventilating units, abatement shall stop immediately and shall not resume until power is restored and negative pressure ventilation equipment is operating again.
8. Negative pressure ventilation equipment shall be exhausted to the outside of the building away from occupied areas.
 - a. All openings (including but not limited to operable windows, doors, vents, air intakes or exhausts of any mechanical devices) less than 15 feet from the exterior exhaust duct termination location shall be plasticized with two layers of fire retardant 6-mil polyethylene sheeting, or a second negative pressure ventilation unit with the primary unit's capacity shall be connected in series prior to exhausting to the outside.
 - b. Negative pressure ventilation equipment shall exhaust away from areas accessible to the public.

ASBESTOS ABATEMENT

- c. All ducting shall be sealed and braced or supported to maintain airtight joints. Ducts shall be reinforced and shall be installed so as to prevent breakage. Damage to ducts must be repaired immediately.
9. Where ducting to the outside is not possible, a second negative pressure ventilation unit compatible with the primary unit's capacity shall be connected in series. The area receiving the exhaust shall have sufficient, non-recycling exhaust capacity to the outside of the structure.
10. In the event that there is a failure of the containment system or a breach in the Isolation Barriers, all abatement work will cease and the asbestos abatement contractor will immediately correct the condition. Abatement work will not resume until the Work Area has been smoke tested by the third party laboratory and approved by the Construction Project Manager.

F. LOCKDOWN ENCAPSULATION PROCEDURES

1. The following procedures shall be followed to seal in non-visible residue while conducting lockdown encapsulation on all surfaces from which ACM has not been removed:
 - a. Only encapsulants rated as acceptable or marginally acceptable on the basis of Battelle Columbus Laboratory test procedures and rating requirements developed under the 1978 USEPA Contract shall be used for lockdown encapsulation.
 - b. The encapsulant solvent or vehicle shall not contain a volatile hydrocarbon unless reviewed and approved by DEP.
 - c. Latex paint with solids content greater than 15 percent shall be considered a lockdown sealant for coating all non-metallic surfaces.
 - d. Encapsulants shall be applied using airless spray equipment. Spraying is to occur at the lowest pressure range possible to minimize fiber release from encapsulant impact at the surface. It shall be applied with a consistent horizontal or vertical motion.
 - e. The cleaned layer of the surface barriers shall be removed from walls and floors.

The isolation barriers shall remain in place throughout cleanup. Decontamination enclosure systems shall remain in place and be utilized. A thin coat of lockdown encapsulant shall be applied to all surfaces in the work area which were not the subject of removal or abatement, including the cleaned layer of the surface barriers, but excepting sprinklers, standpipes, and other active elements of the fire suppression system.

ASBESTOS ABATEMENT

1.07 NOTIFICATIONS, PERMITS, WARNING SIGNS, LABELS, AND POSTERS

- A. The asbestos abatement contractor shall submit an Asbestos Project Notification (ACP-7) to the NYCDEP listing each work area within the building separately one week in advance of the start of work.
- B. The registered design professional shall obtain an asbestos abatement permit authorizing the performance of construction work as required for asbestos projects involving one or more of the following activities:
 - 1. Obstruction of an exit door leading to an exit stair or the exterior of the building;
 - 2. Obstruction of an exterior fire escape or access to that fire escape;
 - 3. Obstruction of a fire-rated corridor leading to an exit door;
 - 4. Removal of handrails in an exit stair or ramp;
 - 5. Removal or dismantling of any fire alarm system component including any fire alarm-initiating device (e.g., smoke detectors, manual pull station);
 - 6. Removal or dismantling of any exit sign or any component of the exit lighting system, including photo luminescent exit path markings;
 - 7. Removal or dismantling of any part of a sprinkler system including piping or sprinkler heads;
 - 8. Removal or dismantling of any part of a standpipe system including fire pumps or valves;
 - 9. Removal of any non-load bearing / non-fire-rated wall (greater than 45 square feet or 50 percent of a given wall);
 - 10. Any plumbing work other than the repair or replacement of plumbing fixtures;
 - 11. Removal of any fire-resistance rated portions of a wall, ceiling, floor, door, corridor, partition, or structural element enclosure including spray-on fire resistance rated materials;
 - 12. Removal of any fire damper, smoke damper, fire stopping material, fire blocking, or draft stopping within fire-resistance rated assemblies or within concealed spaces;
 - 13. Any work that otherwise requires a permit from the DOB (full demolitions, alterations, renovations, modifications or plumbing work).

ASBESTOS ABATEMENT

- C. The asbestos abatement contractor shall provide a floor plan showing the areas of the building under abatement and the location of all fire exits in said areas. It shall be prominently posted in the building lobby or comparable location, along with a notice stating the location within the building of the negative air cutoff switch, if applicable.
- D. The general contractor shall submit, as required, an asbestos abatement permit due to one or more of the activities listed in 1.07 (B) (1-8) and (B) (13) of this specification. The asbestos abatement contractor is responsible for submitting, with an asbestos project notification, a work place safety plan (WPSP) and any other applicable construction documents. These documents must be prepared by a registered design professional.
- E. A WPSP is not required for projects requiring an asbestos abatement permit due to one or more of the activities listed in 1.07 (B) (9-12) of this specification. The asbestos abatement contractor shall submit, together with the asbestos project notification, all applicable asbestos abatement permit construction documents.
- F. The general contractor shall retain a Registered Design Professional to perform the inspections required pursuant to Title 28 of the Administrative Code, including but not limited to special inspections required by Chapter 17 of the Building Code, as follows:
 - 1. A final inspection shall be performed by a registered design professional retained by the asbestos abatement contractor after all work authorized by the asbestos abatement permit is completed. The person performing the inspection shall note all failures to comply with the provisions of the Building Code or approved asbestos abatement permit and shall promptly notify the owner in writing. All defects noted in such inspection shall be corrected. The final inspection report shall either:
 - a. Confirm:
 - (1) That the construction work is complete, including the reinstallation or reactivation of any building fire safety or life safety component.
 - (2) That any defects previously noted have been corrected.
 - (3) That all required inspections were performed.
 - (4) That the work is in substantial compliance with the approved asbestos abatement permit construction documents, the Building Code, and other applicable laws and rules.

ASBESTOS ABATEMENT

b. Confirm:

- (1) That the construction work does not return the building (or portion thereof) affected by the abatement project to a condition compliant with the building code and other applicable laws and rules, but that the registered design professional has reviewed an application for asbestos abatement permit construction documents approval that has been approved by the department of buildings, and the subsequent scope of work as approved will, upon completion, render all areas affected by the asbestos project in full compliance with the building code and all applicable laws and rules.
- (2) That any defects previously noted that are not addressed by the subsequent scope of work as approved by the department of buildings, have been corrected.
- (3) That all required inspections that are not addressed by the subsequent scope of work as approved by the department of buildings were performed.
- (4) That all completed work pursuant to an asbestos abatement permit is in substantial compliance with the approved asbestos abatement permit construction documents.

- G. The general contractor shall provide the final inspection reports to be filed with DEP on A-TR1 form. Records of final inspections made by registered design professionals shall be submitted to DDC as part of the close out document package.
- H. Erect bilingual (English-Spanish) warning signs around the work space and at every point of potential entry from the outside and at main entrance to building which can be viewed by the public without obstruction, in accordance with OSHA 29 CFR 1926.1101 (K) (Sign Specifications) and Title 15, Chapter 1 of RCNY. The warning signs shall be a bright color so that they will be easily noticeable. The size of the sign and the size of the lettering shall be no less than OSHA requirements.
- I. Provide the required labels for all polyethylene bags and all drums utilized to transport contaminated material to the landfill in accordance with OSHA 29 CFR 1926.1101 (K)(2) and by 49 CFR Parts 171 and 172 of the Department of Transportation regulations.

ASBESTOS ABATEMENT

- J. Provide any other signs, labels, warnings, and posted instructions that are necessary to protect, inform and warn people of the hazard from asbestos exposure. Post in a prominent and convenient place for the workers a copy of the latest applicable regulations from OSHA, EPA, NIOSH, State of New York and New York City and any additional items mandated for posting by the aforementioned regulations.
- K. Furnish all permits, variances and notices required to perform the Work.

1.08 EMERGENCY PRECAUTIONS

- A. Establish emergency and fire exits from the Work Area. The clean side of all emergency exits shall be equipped with two full sets of protective clothing and respirators at all times.
- B. Notify local medical emergency personnel, both ambulance crews and hospital emergency room staff prior to commencement of abatement operations as to the possibility of having to handle contaminated or injured workmen, and shall be advised on safe decontamination.
- C. Prepare to administer first aid to injured personnel after decontamination. Seriously injured personnel shall be treated immediately or evacuated immediately for decontamination. When an injury occurs, precautions shall be taken to reduce airborne fiber concentrations (i.e., misting of the air with water) until the injured person has been removed from the Work Area.
- D. Notify, before actual removal of the asbestos material, the local police and fire departments to the danger of entering the Work Area. Asbestos abatement contractor shall make every effort to help these agencies form plans of action should their personnel need to enter the contaminated area.

1.09 SUBMITTALS

- A. Pre-Construction Submittals:
 - 1. Attend a pre-construction meeting scheduled by the City of New York Department of Design and Construction. This meeting shall also be attended by a designated representative of the City of New York third party air monitoring firm, facility manager and the Construction Project Manager. At this meeting, the asbestos abatement contractor shall present three copies of the following items, bound and indexed. The detailed plan of action must be submitted at least five (5) days prior to the pre-construction meeting.
 - a. Asbestos abatement contractor's scope of work, work plan and schedule.

ASBESTOS ABATEMENT

- b. Asbestos project notifications, approved variances and plans to Government Agencies.
- c. Copies of Permits, clearance and licenses if required.
- d. Schedules: the asbestos abatement contractor shall provide to the Construction Project Manager a copy of the following schedules for approval. Once approved, schedules shall be maintained and updated as received. Asbestos abatement contractor shall post a copy of all schedules at the site:
 - (1) A construction schedule stating critical dates of the project including, but not limited to, mobilization, Work Area preparation, demolition, gross removal, fine cleaning, encapsulation, inspections, clearance monitoring, and phase of refinishing and final inspections. The schedule shall be updated biweekly, at a minimum.
 - (2) A schedule of staffing stating number of workers per shift per activity, name and number of supervisor(s) per shift, shifts per day, and total days to be worked.
 - (3) Submit all changes in schedule or staffing to the Construction Project Manager prior to implementation.
 - (4) A schedule of equipment to be used including numbers and types of all major equipment such as HEPA Air Filtration Units, HEPA-vacuums, airless sprayers, Water Atomizing Devices and Type "C" compressors.
- e. A written plan and shop drawings for preparation of work site and decontamination chamber.
- f. Description of protective clothing and approved respirator to be used, make, model, NIOSH approval numbers.
- g. Delineation of responsibility of work site supervision, including competent person, with names, resumes, and home telephone numbers.
- h. Explanation of decontamination sequence and isolation techniques.
- i. Description of specific equipment to be utilized, including make and model number of air filtration devices, vacuums, sprayers, etc.
- j. Description of any prepared methods, procedures, techniques, or equipment other than those specified in the Contract Documents.

ASBESTOS ABATEMENT

- k. Explanation of the handling of asbestos contaminated wastes including EPA and NYCDEP identification numbers of Waste Hauler.
- l. Description of the final clean-up procedures to be used.
- m. Name and qualifications of asbestos abatement contractor's Air Monitor including AIHA accreditation, and proof of NIOSH PAT and NIST/NVLAP Bulk Quality Assurance Proficiency of OSHA samples for approval by the City of New York Department of Design and Construction.
- n. Written description of emergency procedures to be followed in case of injury or fire. This section must include evacuation procedures, source of medical assistance (name and telephone number) and procedures to be used for access by medical personnel (examples: first aid squad and physician). NOTE: Necessary Emergency Procedures Shall Take Priority Over All Other Requirements of These Specifications.
- o. Material Safety Data Sheets (MSDS) for encapsulants, sealants, firestopping foam, cleaners/disinfectants, spray adhesive and any and all potentially hazardous materials that may be employed on the project. No work involving the aforementioned will be allowed to proceed until MSDS are reviewed.
- p. Worker Training and Medical Surveillance: Asbestos abatement contractor shall submit a list of the persons who will be employed by him in the removal work. Present evidence that workers have received proper training required by the regulations and the medical examinations required by OSHA 29 CFR 1926.1101.
- q. Logs: Specimen copies of daily progress log, visitor's log, and disposal log.
 - (1) The asbestos abatement contractor shall provide a permanently bound log book of minimum 8-1/2" x 11" size at the entrance to the Worker and Waste Decontamination enclosure system as hereinafter specified. Log book shall contain on title page the project name, name, address and phone number of Environmental Control Representative; name, address and phone number of asbestos abatement contractor; name, address and phone number of asbestos abatement contractor and City's air testing entity; emergency numbers including, but not limited to local Fire/Rescue Department. Log book shall

ASBESTOS ABATEMENT

contain a list of personnel approved by the laboratory for entry into the Work Area.

- (2) All entries into the log shall be made in non-washable, permanent ink and such pen shall be strung to or otherwise attached to the log to prevent removal from the log-in area. Under no circumstances shall pencil entries be permitted. Any significant events occurring during the abatement project shall be entered into the log. Upon completion of the job, the Asbestos abatement contractor shall submit a copy of the logbook containing a day-to-day record of personnel log entries countersigned by the Construction Project Manager every day.

- r. Worker's Acknowledgments: Submit statements signed by each employee that the employee has received training in the proper handling of ACM, understands the health implications and risks involved; and understands the use and limitations of the respiratory equipment to be used.

B. Submit copies of the following items to the Construction Project Manager during the work:

1. Security and safety logs showing names of person entering workspace, date and time of entry and exit, record of any accident, emergency evacuation, and any other safety and/or health incident.
2. Progress logs showing the number of workers, supervisors, hours of work and tasks completed shall be submitted daily to the Construction Project Manager.
3. Floor plans indicating asbestos abatement asbestos abatement contractor's current work progress shall be submitted for review by the Construction Project Manager at weekly progress meetings.
4. All asbestos abatement contractors' air monitoring and inspection results.

C. Project Closeout Submittals:

Upon completion of the project and as a condition of acceptance, the asbestos abatement contractor shall present two copies of the following items, bound and indexed:

1. Lien Waivers from asbestos abatement contractor, Sub-asbestos abatement contractors and Suppliers,
2. Daily OSHA air monitoring results,

ASBESTOS ABATEMENT

3. All Waste Manifests (Asbestos and Construction Debris), seals and disposal logs,
4. Field Sign-In/Sign-Out Logs for every shift,
5. Copies of all Building Department Forms and Permits,
6. A Letter of Compliance stating that all the work on this project was performed in accordance with the Specifications and all applicable Federal, State and Local regulations,
7. All Warranties as stated in the Specifications,
 - a. Fully executed disposal certificates and transportation manifest.
8. Project Record: The asbestos abatement contractor shall maintain a project record for all small and large asbestos projects. During the project, the project record shall be kept on site at all times. Upon completion of the project, the project record shall be maintained by the building owner. The project record shall be submitted to DDC as part of the close out documents. The project record shall consist of:
 - a. Copies of licenses of all asbestos abatement contractors involved in the project;
 - b. Copies of DEP and NYSDOL supervisor and handler certificates for all workers engaged in the project;
 - c. Copies of all project notifications and reports filed with DEP and NYSDOL for the project, with any amendments or variances;
 - d. Copies of all asbestos abatement permits, including associated approved plans and work place safety plan;
 - e. A copy of the air sampling log and all air sampling results;
 - f. A copy of the abatement asbestos abatement contractor's daily log book;
 - g. All data related to bulk sampling including the results of any asbestos surveys performed by an asbestos investigator;
 - h. Copies of all asbestos waste manifests;
 - i. A copy of all Project Monitor's Reports (ACP-15).

ASBESTOS ABATEMENT

- j. A copy of each ATR-1 Form completed for the asbestos project (if required).
 - k. A copy of each Asbestos Project Conditional Closeout Report (ACP-20).
 - l. A copy of the Asbestos Project Completion Form (ACP-21).
9. The asbestos abatement contractor shall submit one of the following certifications to the DOB, with a copy provided to DDC:
- a. Asbestos Project Completion Form. If an asbestos project has been performed, a copy of the asbestos project completion form issued by DEP shall be submitted to DOB, with a copy being provided to DDC, prior to the issuance of a DOB permit and to any amendment of the underlying construction document approval which increases the scope of the project to include (a) work area(s) not previously covered.
 - b. An Asbestos Project Conditional Close-out Form. If an asbestos project has been performed a copy of the asbestos project conditional close-out form issued by DEP shall be submitted to DOB, with a copy being provided to DDC, prior to the issuance of a DOB permit and to any amendment of the underlying construction document approval which increases the scope of the project to include (a) work area(s) not previously covered.

1.10 QUALITY ASSURANCE

- A. All work required for the completion of this project or called for in this Specification must be executed in a workmanlike manner by using the appropriate methods established by regulatory requirements and/or industrial standards. All workmanship or work methods are subject to review and acceptance by the Construction Project Manager. Throughout the Specification, reference is made to codes and standards which establish qualities, levels or types of workmanship which will be considered acceptable. It is the asbestos abatement contractor's responsibility to comply with these codes and standards during the execution of this work.
- B. All materials and equipment required or consumed during the work of this Contract must meet the minimum acceptable criteria established by codes and standards referenced elsewhere in this Specification. Materials and equipment must be submitted for prior approval as part of the asbestos abatement contractor's "Shop Drawings".

ASBESTOS ABATEMENT

- C. It is the asbestos abatement a contractor's responsibility, when so required by the Specification or upon written request from the Commissioner or his representative to furnish all required proof that workmanship, materials and/or equipment meet or exceed the codes and standards referenced. Such proof shall be in the form requested, typically a certified report or test conducted by a testing entity approved for that purpose by DDC.
- D. The asbestos abatement contractor shall furnish proof that employees working under his supervision have had instruction on the dangers of asbestos exposure, on respirator use, decontamination, and OSHA regulations. This proof shall be in the form of a notarized affidavit to the effect that the above requirements have been satisfied.
- E. The a asbestos abatement contractor will have at all times in his possession and in view at the job site the OSHA regulations 29 CFR 1910.1001, and 1926.1101 Asbestos, and Environmental Protection Agency 40 CFR, Part 61, subpart B: National Emission Standard for asbestos, asbestos stripping, work practices and disposal of asbestos waste. He shall also have one copy of NYC Title 15, Chapter 1 of RCNY and NYS DOL ICR 56 at the job site at all times.
- F. Familiarity with Pertinent Codes and Standards: In procuring all items used in this work, it is the a asbestos abatement contractor's responsibility to verify the detailed requirements of the specifically named codes and standards and to verify that the items procured for use in this work meet or exceed the specified requirements, and are suitable for their intended use.
- G. Rejection of Non Complying Items: The Commissioner reserves the right to reject items incorporated into the work that fail to meet the specified minimum requirements. The Commissioner further reserves the right, and without prejudice to other recourse that maybe taken, to accept non-complying items subject to an adjustment in the Contract amount as approved by the City.
- H. Applicable Regulations, Codes and Standards: Applicable standards listed in these Specifications include, but are not necessarily limited to, standards promulgated by the following agencies and organizations:
 - 1. American National Standards Institute (ANSI)
(Successor to USASI and ASA)
25 West 43rd Street (between 5th and 6th Avenue) 4th Floor
New York, NY 10036
212-642-4900
 - 2. American Society for Testing and Materials (ASTM)
100 Bar Harbor Drive
West Conshohocken, PA 19428-2959
610-832-9500

ASBESTOS ABATEMENT

3. National Institute for Occupational Safety and Health (NIOSH)
Robert A. Taft Laboratory
4676 Columbia Pkwy
Mailstop R12 Cincinnati, Ohio 45226
513-841-4428
4. National Electrical Code (NEC)
See NFPA
5. National Fire Protection Association (NFPA)
1 Batterymarch Park
Quincy, Massachusetts 02169-7471
617-770-3000
6. New York City Fire Department (FDNY)
9 Metrotech Center
Brooklyn, NY 11201-5431
718-999-2117
7. New York City Department of Buildings (NYC DOB)
Enforcement Division
280 Broadway, New York, New York 10007
212- 566-2850
8. New York City Department of Environmental Protection (NYCDEP)
Bureau of Environmental Compliance
Asbestos Control Program
59-17 Junction Boulevard, 8th Floor
Corona, New York 11368
718-595-3682
9. New York City Department of Health and Mental Hygiene (NYC DOHMH)
Environmental Investigation
125 Worth Street
New York, New York 10013
212-442-3372
10. New York State Department of Labor (NYSDOL)
Division of Safety and Health
Engineering Services Unit
State Office Building Campus
Albany, New York 12240-0010
11. New York City Department of Sanitation
125 Worth Street, Room 714
New York, New York 10013
212-566-1066

ASBESTOS ABATEMENT

12. Occupational Safety and Health Administration (OSHA)
Region II - Regional Office
201 Varick Street, Room 908
New York, New York 10014
212-337-2378
 13. United States Environmental Protection Agency (EPA or USEPA)
Region II
Asbestos NESHAPS Contact
Air and Waste Management Division
(Air Compliance Branch) – USEPA
290 Broadway, 21st Floor
New York, New York 10007-1866
212-637-3660
- I. Post all applicable regulations in a conspicuous place at the job site. Assure that the regulations are not altered, defaced or covered by other materials. One copy of each regulation must also be kept at the Asbestos abatement contractor's office.

1.11 CITY/ASBESTOS ABATEMENT CONTRACTOR RESPONSIBILITIES

- A. The normal occupants of the Work Areas will be relocated by the City prior to the performance of the abatement work and returned there to at the conclusion of the abatement work, at no cost to the asbestos abatement contractor. However, the asbestos abatement contractor shall protect all furniture and equipment in the Work Areas in a manner as hereinafter specified. In addition, the asbestos abatement contractor shall perform the work of this Contract in a manner that will be least disruptive to the normal use of the non-Work Areas in the building.
- B. Asbestos abatement contractor shall be responsible for cleaning all portable items not specifically addressed by the Facility, in the Work Areas, or dispose of same as asbestos contaminated waste.
- C. Facility to provide asbestos abatement contractor with a list of items that cannot be removed and need special attention.
- D. Facility to stop all deliveries that may be scheduled to the Work Area while work is in progress.
- E. Facilities to have authorized personnel on site at all times or supply the asbestos abatement contractor with means of contacting such personnel without unreasonable delay. Such personnel shall have access to all areas, have knowledge of electrical, and air handling equipment. Such personnel shall assist the asbestos abatement contractor in case of any power failure or breakdown to shut down air supply systems, to reset and control all protective systems such as alarms.

ASBESTOS ABATEMENT

sprinklers, locks, etc. The Facility shall ensure no active air handling systems are operating within the Work Area.

- F. City will not occupy the portions of the building, in which work is being performed during the entire asbestos removal operation, including completion of clean up.
- G. Asbestos abatement contractor shall provide a plan for 24 hour job security both for prevention of theft and for barring entry of curious but unprotected personnel into Work Areas.
- H. Asbestos abatement contractor shall provide surveillance by a fire watch and set forth procedures to be taken for the safety of building occupants in the event of an emergency, in accordance with the WPSP.
- I. Should the failure of any utility occur, the City will not be responsible to the asbestos abatement contractor for loss of time or any other expense incurred.
- J. Facility will be responsible to notify the asbestos abatement contractor of any planned electrical power shutdowns in order to ensure that there are no power interruptions in the negative air pressure systems.
- K. Asbestos abatement contractor shall remove all flammable materials from the work area and all sources of ignition (including but not limited to pilot lights) shall be extinguished.
- L. Asbestos abatement contractor shall require a competent person (as defined in OSHA 1926.1101) to perform the following functions and to be on-site continuously for the duration of the project:
 - 1. Monitor the set up of the Work Area enclosure and ensure its integrity.
 - 2. Control entry and exit into the work enclosure.
 - 3. Ensure that employees are adequately trained in the use of engineering controls, proper work practices, proper personal protective equipment and in decontamination procedures.
 - 4. Insure that employees use proper engineering controls, proper work practices, proper personal protective equipment and proper decontamination procedures.
 - 5. The competent person (as defined in OSHA 1926.1101) shall check for rips and tears in work suits, and ensure that they are mended immediately or replaced.

1.12 USE OF BUILDING FACILITIES

- A. City shall make available to the asbestos abatement contractor, from existing outlets and supplies, all reasonably required amounts of water and electric power at no charge.
- B. Electric power to all Work Areas shall be shut down and locked out except for electrical equipment that must remain in service. Safe temporary power and lighting shall be provided by asbestos abatement contractor in accordance with applicable codes. All power to Work Areas shall be brought in from outside the area through ground-fault interrupter circuits installed at the source. Stationary electrical equipment within the Work Area, which must remain in service, shall be adequately protected, enclosed and ventilated. The Facility will identify all electric lines that must remain in service. Asbestos abatement contractor shall protect all lines.
- C. Asbestos abatement contractor shall provide, at his own expense, all electrical, water, and waste connections, tie-ins, extensions, and construction materials, supplies, etc. All water tie-ins shall be hard piped with polyethylene or copper piping. At the end of each shift, asbestos abatement contractor shall disconnect all hoses within the work zone and place in equipment room of the worker decontamination unit. Asbestos abatement contractor shall ensure positive shutoff of all water to Work Area during non-working hours.
- D. Utilities:
 - 1. General:

All temporary facilities required to be installed, shall be subject to the approval of the Commissioner. Prior to starting the work at any site; specify clearly the temporary locations of facilities preferably with sketches and submit the same to the Construction Project Manager for approval.
 - 2. Water:

The Department of Design and Construction will furnish all water needed for construction, at no cost to the asbestos abatement contractor in buildings under their jurisdiction. All temporary plumbing or adaptations to supply the needs of the Work Area shall be installed and removed by the asbestos abatement contractor and the cost thereof included in the Lump Sum price for abatement work. Shower water for the decontamination unit shall be provided hot. Heating of water, if necessary, shall be provided by the asbestos abatement contractor.
 - 3. Electricity:

The Department of Design and Construction will furnish all electricity needed for construction, at no cost to the asbestos abatement contractor in buildings under their jurisdiction. All temporary electrical work or

ASBESTOS ABATEMENT

adaptations to supply the needs of the Work Area shall be installed and removed by the asbestos abatement contractor and the cost thereof included in the Lump Sum price for abatement work.

In leased spaces, arrangements for water supplies and electricity must be made with the landlord. However, all such arrangements must be made through and are subject to approval of the Department of Design and Construction. Utilities will be provided at no cost to the Asbestos abatement contractor. However, it is the asbestos abatement contractor's (or the General contractor's) responsibility to furnish and install a suitable distribution system to the Work Area. This system will be provided at no cost to the City.

A dedicated power supply for the negative pressure ventilating units shall be utilized. The negative air equipment shall be on a ground fault circuit interrupter (GFCI) protected circuit separate from the remainder of the work area temporary power circuits.

- E. Asbestos abatement contractor shall shut down and lock out all electric power to all work areas except for electrical equipment that must remain in service. Safe temporary power and lighting shall be provided in accordance with all applicable codes. Existing light sources (e.g., house lights) shall not be utilized. All power to work areas shall be brought in from outside the area through ground-fault circuit interrupter at the source.
 - 1. If electrical circuits, machinery, and other electrical systems in or passing through the work area must stay in operation due to health and safety requirements, the following precautions must be taken:
 - a. All unprotected cables, except low-voltage (less than 24 volts) communication and control system cables, panel boxes of cables and joints in live conduit that run through the work area shall be covered with three (3) independent layers of six (6) mil fire retardant polyethylene. Each layer shall be individually duct taped and sealed. All three (3) layers of polyethylene sheeting shall be left in place until satisfactory clearance air sampling results have been obtained.
 - b. Any energized circuits remaining in the work area shall be posted with a minimum two (2) inch high lettering warning sign which reads: DANGER LIVE ELECTRICAL - KEEP CLEAR. A sign shall be placed on all live covered barriers at a maximum of ten (10) foot intervals. These signs shall be posted in sufficient numbers to warn all persons authorized to enter the work area of the existence of the energized circuits.

ASBESTOS ABATEMENT

2. Any source of emergency lighting which is temporarily blocked as a result of work place preparation shall be replaced for the duration of the project by battery operated or temporary exit signs, exit lights, or photo luminescent path markings.
- F. Asbestos abatement contractor shall provide a separate temporary electric panel board to power asbestos abatement contractor's equipment. The Facility will designate an existing electrical source in proximity to the Work Area. Asbestos abatement contractor's licensed electrician shall provide temporary tie-in via cable, outlet boxes, junction boxes, receptacles and lights, all with ground fault interruption. At no time shall extension cords greater than 50-feet in length be allowed. All temporary electrical installation shall be in accordance with OSHA regulations. The electric shut down for power panel tie-in will be on off-hours and must be coordinated with the Facility. Asbestos abatement contractor shall provide to the City a specification and drawing outlining his power requirements at the pre-construction meeting.
- G. Additional electrical equipment (i.e., transformers, etc.), which is necessary due to the lack of existing power on the floor, shall be at the asbestos abatement contractor's expense.
- H. Asbestos abatement contractor shall provide fire protection in accordance with all State and Local fire codes.
- I. Sprinklers, standpipes, and other fire suppression systems shall remain in service and shall not be plasticized.
- J. When temporary service lines are no longer required, they shall be removed by the asbestos abatement asbestos abatement contractor. Any parts of the permanent service lines, grounds and buildings, disturbed or damaged by the installation and/or removal of the temporary service lines, shall be restored to their original condition by the asbestos abatement asbestos abatement contractor. Senior Stationary Engineer will inspect and test all switches, controls, gauges, etc. and shall submit a list to the Construction Project Manager of any equipment damaged by the asbestos abatement asbestos abatement contractor.
- K. Asbestos abatement contractor shall supply hot shower water necessary for use in the decontamination unit.

1.13 USE OF THE PREMISES

- A. Asbestos abatement contractor shall confine his apparatus, the storage of materials, and supplies, and the operation of his workmen to limits established by law, ordinances, and the directions of the Construction Project Manager and the Facility. All flammable or combustible materials shall be properly stored to obviate fire and in areas approved by the Facility.

ASBESTOS ABATEMENT

- B. Asbestos abatement contractor shall assure that no exits from the building are obstructed, that appropriate safety barriers are established to prevent access, and that Work Areas are kept neat, clean, and safe.
- C. Asbestos abatement contractor shall maintain exits from the work area or alternative exits shall be established, in accordance with section 1027 of the New York City Fire Code. Exits shall be checked at the beginning and end of each work shift against blockage or impediments to exiting.
- D. If the openings of temporary structural partitions related to abatement work areas block egress, the partition shall consist of two sheets of fire retardant 6-mil plastic, prominently marked as an exit with photo luminescent paint or signage. Cutting tools (e.g., knife, razor) shall be attached to the work area side of the sheeting for use in the event that the barrier must be cut open to allow egress.
- E. All surrounding work, fixtures, soil lines, drains, water lines, gas pipes, electrical conduit, wires, utilities, duct work railings, shrubbery, landscaping, etc. which are to remain in place shall be carefully protected and, if disturbed or damaged, shall be repaired or replaced as directed by the City, at no additional cost.
- F. All routes through the building to be used by the asbestos abatement contractor shall first be approved by the Construction Project Manager and the Facility.
- G. Attention is specifically drawn to the fact that other asbestos abatement contractors, performing the work of other Contracts, may be (or are) brought upon any of the work sites of this Contract. Therefore, the asbestos abatement contractor shall not have exclusive rights to any site of his work and shall fully cooperate and coordinate his work with the work of other asbestos abatement contractors who may be on (or are on) any site of the work of this Contract. Regulated area exempted.
- H. Temporary toilet facilities must be provided by the asbestos abatement contractor on the site. Coordinate location of facilities with Construction Project Manager. No toilet facilities will be allowed in the Work Area.

1.14 PROTECTION AND DAMAGE

- A. The asbestos abatement contractor is responsible to cover all furniture and equipment that cannot be removed from Work Areas. Moveable furniture and equipment will be removed from Work Areas by asbestos abatement contractor prior to start of work and returned upon successful completion of the final air testing. At the conclusion of the work (after clearance level of air testing reaches the acceptable limit), the asbestos abatement contractor will remove all plastic covering from the walls, floors, furniture, equipment and reinstall furniture and equipment in the cleaned Work Area. The asbestos abatement contractor shall remove all shades, curtains and drapes from the Work Area, and reinstall the same following the final clean up.

ASBESTOS ABATEMENT

- B. Prior to plasticizing, the proposed work areas shall be pre-cleaned using HEPA filtered vacuum equipment and/or wet cleaning methods. Methods that raise dust, such as sweeping or vacuuming with equipment not equipped with HEPA filters, are prohibited.
- C. Use rubber tired vehicles that use non-volatile fuels for conveying material inside building and provide temporary covering, as necessary, to protect floors.
- D. No materials or debris shall be thrown from windows or doors of the building. Building waste system shall NOT be used to remove refuse.
- E. Debris shall be removed from the work site daily. Premises shall be left neat and clean after each work shift, so that work may proceed the next regular workday without interruption. Limited bag storage may take place within the Work Area when approved by the Construction Project Manager.
- F. Protect floors and walls along removal routes from damage, wear and staining with contamination control flooring. All finished surfaces to be protected with Masonite or other rigid sheathing material.
- G. A preliminary inspection for pre-existing damage shall be conducted by asbestos abatement contractor and representative of the City before commencement of the project.

1.15 RESPIRATORY PROTECTION REQUIREMENTS

- A. Respiratory protection shall be worn by all individuals who may be exposed to asbestos fibers from the initiation of the asbestos project until all areas have successfully passed clearance air monitoring in accordance with Regulations and these Specifications.
- B. Asbestos abatement contractor shall develop and implement a written respiratory protection program with required site-specific procedures and elements. The program shall be administered by a properly trained individual. The written respiratory protection program shall include the requirements set forth in OSHA Standard 29 CFR 1910.134, at a minimum.
- C. The Asbestos abatement contractor shall provide workers with individually issued and marked respiratory equipment. Respiratory equipment shall be suitable for the asbestos exposure level(s) in the Work Area(s), as specified in OSHA Standards 29 CFR 1910.134 and 29 CFR 1926.1101, NIOSH Standard 42 CFR 84, or as more stringently specified otherwise, herein.
- D. Where respirators with disposable filter parts are employed, the asbestos abatement contractor will provide sufficient filter parts for replacement as necessary or as required by the applicable regulation.

ASBESTOS ABATEMENT

- E. All respiratory protection shall be NIOSH approved. All respiratory protection shall be provided by asbestos abatement contractor, and used by workers in conjunction with the written respiratory protection program.
- F. Asbestos abatement contractor shall provide respirators selected by an Industrial Hygienist that meet the following requirements:

Table 1. -- Assigned Protection Factors⁵

Type of Respirator ^{1,2}	Half mask	Full facepiece	Helmet/hood
1. Air-Purifying Respirator	³ 10	50
2. Powered Air-Purifying Respirator (PAPR)	50	1,000	⁴ 25/1,000
3. Supplied-Air Respirator (SAR) or Airline Respirator			
• Demand mode	10	50
• Continuous flow mode	50	1,000	⁴ 25/1,000
• Pressure-demand or other positive-pressure mode	50	1,000
4. Self-Contained Breathing Apparatus (SCBA)			
• Demand mode	10	50	50
• Pressure-demand or other positive-pressure mode (e.g., open/closed circuit)	10,000	10,000

Notes:

¹Employers may select respirators assigned for use in higher workplace concentrations of a hazardous substance for use at lower concentrations of that substance, or when required respirator use is independent of concentration.

²The assigned protection factors in Table 1 are only effective when the employer implements a continuing, effective respirator program as required by this section (29 CFR 1910.134), including training, fit testing, maintenance, and use requirements.

³This APF category includes filtering facepieces, and half masks with elastomeric facepieces.

⁴The employer must have evidence provided by the respirator manufacturer that testing of these respirators demonstrates performance at a level of protection of 1,000 or greater to receive an APF of 1,000. This level of performance can best be demonstrated by performing a WPF or SWPF study or equivalent testing. Absent such testing, all other PAPRs and SARs with helmets/hoods are to be treated as loose-fitting facepiece respirators, and receive an APF of 25.

ASBESTOS ABATEMENT

⁵These APFs do not apply to respirators used solely for escape. For escape respirators used in association with specific substances covered by 29 CFR 1910 subpart Z, employers must refer to the appropriate substance-specific standards in that subpart. Escape respirators for other IDLH atmospheres are specified by 29 CFR 1910.134 (d)(2)(ii).

G. Selection of high efficiency filters:

1. All high efficiency filters shall have a nominal efficiency rating of 100 (99.97-percent effective) when tested against 0.3-micrometer monodisperse diethyl-hexyl phthalate (DOP) particles.
2. Choose N-, R-, or P-series filters based upon the presence or absence of oil particles.
 - a. N-series filters shall only be used for non-oil solid and water based aerosols or fumes.
 - b. R- and P-series filters shall be used when oil aerosols or fumes (i.e., lubricants, cutting fluids, glycerin, etc.) are present. The R-series filters are oil resistant and the P-series filters are oil proof.
 - c. Follow filter manufacture recommendations.
3. If a vapor hazard exists, use an organic vapor cartridge in combination with the high efficiency filter.

H. Historical airborne fiber level data may serve as the basis for selection of the level of respiratory protection to be used for an abatement task. Historical data provided by the asbestos abatement contractor shall be based on personal air monitoring performed during work operations closely resembling the processes, type of material, control methods, work practices, and environmental conditions present at the site. Documentation of aforementioned results may be requested by the City and/or Third-Party Air Monitor for review. This will not relieve the asbestos abatement contractor from providing personal air monitoring to determine the time-weighted average (TWA) for the work under contract. The TWA shall be determined in accordance with 29 CFR 1926.1101.

I. At no time during actual removal operations shall half-mask air purifying respirators be allowed unless a full 8-hour TWA and excursion limit have been conducted, and reviewed by the Construction Project Manager. If the TWA and excursion limit have not been conducted, a Supplied-Air Respirator (SAR) or Airline Respirator or Self-Contained Breathing Apparatus (SCBA) must be used. Use of single use dust respirators is prohibited for the above respiratory protection.

ASBESTOS ABATEMENT

- J. Workers shall be provided with personally issued and individually marked respirators. Respirators shall not be marked with any equipment that will alter the fit of the respirator in any way. Only waterproof identification markers shall be used.
- K. Asbestos abatement contractor shall ensure that the workers are qualitatively or quantitatively fit tested by an Industrial Hygienist initially and every 12 months thereafter with the type of respirator he/she will be using.
- L. Whenever the respirator design permits, workers shall perform the positive and negative air pressure fit test each time a respirator is worn. Powered air-purifying respirators shall be tested for adequate flow as specified by the manufacturer.
- M. No facial hairs (beards) shall be permitted to be worn when wearing respiratory protection that requires a mask-to-face seal.
- N. If a worker wears glasses, a spectacle kit to fit their respirator shall be provided by the asbestos abatement contractor at the asbestos abatement contractor's expense.
- O. Respiratory protection maintenance and decontamination procedures shall meet the following requirements:
 - 1. Respiratory protection shall be inspected and decontaminated on a daily basis in accordance with OSHA 29 CFR 1910.134 (b); and
 - 2. High efficiency filters for negative pressure respirators shall be changed after each shower; and
 - 3. Respiratory protection shall be the last piece of worker protection equipment to be removed. Workers must wear respirators in the shower when going through decontamination procedures as stated in Section 3.03 and/or 3.04.
 - 4. Airline respirators with high efficiency filtered disconnect shall be disconnected in the equipment room and worn into the shower. Powered air-purifying respirator face pieces shall be worn into the shower. Filtered/power pack assemblies shall be decontaminated in accordance with manufacturers recommendations; and
 - 5. Respirators shall be stored in a dry place and in such a manner that the face-piece and exhalation valves are not distorted; and
 - 6. Organic solvents shall not be used for washing of respirators.
- P. Authorized visitors shall be provided with suitable respirators and instruction on the proper use of respirators whenever entering the Work Area. Qualitative fit test shall be done to ensure proper fit of respirator.

1.16 PROTECTIVE CLOTHING

- A. Provide worker protection as required by the most stringent OSHA and/or EPA standards applicable to the work. Provide to all workers, foremen, superintendents, authorized visitors and inspectors, protective disposable clothing consisting of full body coveralls, head covers, gloves and 18-inch high boot type covers or reusable footwear.
- B. In addition to personal protective equipment for workers, the asbestos abatement contractor shall make available at each worksite at least four (4) additional uniforms and required respiratory equipment each day for personnel who are authorized to inspect the work site. He/she shall also provide, for the duration of the work at any site involving a decontamination unit for worksite access, a lockable storage locker for use by the Construction Project Manager. In addition to respiratory masks for workers, the asbestos abatement contractor must have on hand at the beginning of each work day, at least four (4) masks each with two sets of fresh filters, for use by personnel who are authorized to inspect the worksite. The asbestos abatement contractor shall check for proper fit of the respirators of all City personnel authorized to enter the Work Area.
- C. Asbestos handlers involved in tent procedures shall wear two (2) disposable suits, including gloves, hood and footwear, and appropriate respiratory equipment. All street clothes shall be removed and stored in a clean room within the work site. The double layer personal protective equipment shall be used for installation of the tent and throughout the procedure, if a decontamination unit (with shower and clean room) is contiguous to the Work Area, only one (1) layer of disposable personal protective equipment shall be required; in this case, prior to exiting the tent the worker shall HEPA vacuum and wet clean the disposable suit.
- D. The outer disposable suit (if 2 suits are worn) shall be removed and remain in the tent upon exiting. Following the tent disposal and work site clean up the workers shall immediately proceed to a shower at the work site. The inner disposal unit and respirator shall be removed in the shower after appropriate wetting. The disposal clothing shall be disposed of as asbestos-containing waste material. The workers shall then fully and vigorously shower with supplied liquid bath soap, shampoo, and clean dry towels.
- E. Coveralls: provide disposable full-body coveralls and disposable head covers. Require that they be worn by all workers in the Work Area. Provide a sufficient number for all required changes for all workers in the Work Area.
- F. Boots: provide work boots with non-skid soles, and where required by OSHA, foot protection, for all workers. Provide boots at no cost to workers. Paint uppers of all boots yellow with waterproof enamel. Do not allow boots to be removed from the Work Area for any reason after being contaminated with ACM and/or dust.

ASBESTOS ABATEMENT

- G. Hard Hats: provide hard hats as required by OSHA for all workers, and provide a minimum of four spares for Inspectors, visitors, etc. Label all hats with same warning label as used on disposal bags. Require hard hats to be worn at all times that work is in progress that may cause potential head injury. Provide hard hats of the type with polyethylene strap suspension. Require hats to remain in the Work Area throughout the work. Thoroughly clean and decontaminate and bag hard hats prior to removing them from the Work Area at the end of the work.
- H. Goggles: provide eye protection (goggles) as required by OSHA for all workers involved in any activity that may potentially cause eye injury. Require them to be worn at all times during these activities. Thoroughly clean and decontaminate goggles before removing them from the Work Area.
- I. Gloves: provide work gloves to all workers, of the type dictated by the Work and OSHA Standards. Do not remove gloves from the Work Area. Dispose of as asbestos-asbestos contaminated waste at the end of the work. Gloves shall be worn at all times, except during Work Area Preparation activities that do not disturb ACM.
- J. Reusable footwear, hard hats and eye protection devices shall be left in the contaminated Equipment Room until the end of the Asbestos Abatement Work.
- K. Disposable protective clothing shall be discarded and disposed of as asbestos waste every time the wearer exits from the workspace to the outside through the decontamination facility.
- L. Respirators, disposable coveralls, head covers and foot covers shall be provided by the asbestos abatement contractor for the Facilities Representative, Construction Project Manager and any other authorized representative who may inspect the Work Area. Provide two respirators and six respirator filter changes per day.

1.17 AIR MONITORING - ASBESTOS ABATEMENT CONTRACTOR

- A. Asbestos abatement contractor shall employ a qualified industrial hygiene laboratory to analyze air samples in accordance with OSHA Regulations, 1926.1101 (Asbestos Standards for Construction) and New York City regulations.
- B. The industrial hygiene laboratory shall be a current proficient participant in the American Industrial Hygiene Association (AIHA) PAT Program. The laboratory identification number shall be submitted and approved by the City. The laboratory shall be accredited by the AIHA and New York State Department of Health Environmental Laboratory Approval Program (ELAP).
- C. Industrial hygiene laboratory shall also be a current proficient participant in the NIST/NVLAP Quality Assurance Program for the identification of bulk samples. Laboratory identification number shall be submitted to and approved by the City.

ASBESTOS ABATEMENT

- D. Air monitoring responsibilities for the asbestos abatement contractor's employees, shall be performed by a representative of the industrial hygiene laboratory retained by the asbestos abatement contractor.
- E. Asbestos abatement contractor shall submit to the City all credentials of the designated (as defined in OSHA 1926.1101) and industrial hygiene laboratory representative for approval.
- F. Air monitoring and inspection shall be conducted by the Asbestos abatement contractor's competent person (as defined in OSHA 1926.1101).
- G. Continuous (daily or per shift) monitoring and inspection will include Work Area samples, personnel samples from the breathing zone of a worker to accurately determine the employees' 8-hour TWA (unless Type C respirators are used) and decontamination unit clean room samples.
- H. Work Area samples and employee personnel samples shall be taken using pumps whose flow rates can be determined to an accuracy of +5-percent, at a minimum of two liters per minute. This must be demonstrated at the job site.
- I. Sampling and analysis methods shall be per NIOSH 7400A.
- J. Test Reports:
 - 1. Promptly process and distribute one copy of the test results, to the Commissioner.
 - 2. Prompt reports are necessary so that if required, modifications to work methods and/or practices may be implemented as soon as possible.
 - 3. Asbestos abatement contractor shall by facsimile notify the Commissioner within 24 hours of the results of each test, followed by written notification within three days.
- K. Competent person shall conduct inspections and provide written reports daily. Inspections will include checking the standard operating procedures, engineering control systems, respiratory protection and decontamination systems, packaging and disposal of asbestos waste, and any other aspects of the project which may affect the health and safety of the people and environment.
- L. All costs for required air monitoring by the asbestos abatement contractor's competent person shall be borne by the asbestos abatement contractor.
- M. The City reserves the right to conduct air and surface dust sampling in conjunction with and separate from the Third-Party Air Monitor for the purposes of Quality Assurance.

ASBESTOS ABATEMENT

- N. All samples shall be accompanied by a Chain of Custody Record that shall be submitted to the Construction Project Manager upon completion of analysis.

1.18 THIRD PARTY MONITORING AND LABORATORY

- A. The NYCDDC, at its own expense, will employ the services of an independent Third Party Air Monitoring Firm and Laboratory. The Third Party Air Monitor will perform air sampling activities and project monitoring at the Work Site.
- B. The Laboratory will perform analysis of air samples utilizing Phase Contrast Microscopy (PCM) and/or Transmission Electron Microscopy (TEM). This laboratory shall meet the standards stated in Paragraph 1.17. B.
- C. Observations will include, but not be limited to, checking the standard operating procedures, engineering control systems, respiratory protection, decontamination systems, packaging and disposal of asbestos waste, and any other aspects of the project that may affect the health and safety of the environment, Asbestos abatement contractor, and/or facility occupants.
- D. The Third Party Air Monitoring Firm and the designated Project Monitor shall have access to all areas of the asbestos removal project at all times and shall continuously inspect and monitor the performance of the asbestos abatement contractor to verify that said performance complies with this Specification. The Third-Party Air Monitor shall be on site throughout the entire abatement operation.
- E. The NYCDDC will be responsible for costs incurred with the Third Party Air Monitoring Firm and laboratory work. Any subsequent additional testing required due to limits exceeded during initial testing shall be paid for by the Asbestos abatement contractor.
- F. At a minimum, air sampling shall be conducted in accordance with the following schedule:

Abatement Activity	Pre- Abatement	During Abatement	Post- Abatement
Equal to or greater than 10,000 square feet or 10,000 linear feet of ACM	PCM	PCM	TEM
Less than 10,000 square feet or 10,000 linear feet of ACM	PCM	PCM	PCM

Note: TEM is acceptable wherever PCM is required.

- G. The number of air samples required per stage of abatement and size of abatement project is listed in the table below:

ASBESTOS ABATEMENT

		Pre-Abatement	During Abatement	Post Abatement
Large Asbestos Projects				
1.	Full Containment	10	5	10
2.	Glovebag inside Tent	5 ^a	5 ^a	5 ^a
3.	Exterior Foam and Vertical Surfaces	-	5 ^c	5 ^d
4.	Interior Foam	10	5 ^c	10 ^d
Small Asbestos Projects				
1.	Full Containment	6	3	6
2.	Glovebag inside Tent	3 ^b	3 ^b	3 ^b
3.	Tent	3 ^b	3 ^b	3 ^b
4.	Exterior Foam and Vertical Surfaces	-	3 ^c	3 ^d
5.	Interior Foam	6	3 ^c	6 ^d
Minor Projects				
1.	Glovebag inside Tent	-	-	1 ^d
2.	Tent	-	-	1 ^d
3.	Exterior Foam and Vertical Surfaces	-	-	1 ^d
4.	Interior Foam	-	-	1 ^d

Notes:

- a. if more than three (3) tents then two (2) samples required per enclosure.
- b. if more than three (3) tents then one (1) sample required per enclosure.
- c. samples shall be taken within the work area(s).
- d. area sampling is required only if:
 - visible emissions are detected during the project
 - during-abatement area sampling results exceeded 0.01 f/cc or the pre-abatement area sampling result(s) for interior projects where applicable.
 - work area to be reoccupied is an interior space at a school, healthcare, or daycare facility.

H. Prior to commencement of abatement activities, the Third Party Air Monitoring Firm will collect a minimum number of area samples inside each homogeneous work area.

1. Samples will be taken during normal occupancy activities and circumstances at the work site.
2. Samplers shall be located within the proposed work area and at all proposed isolation barrier locations.
3. Samples shall be analyzed using PCM.

ASBESTOS ABATEMENT

4. The number of samples to be collected will be determined by the size of the project and the abatement methods to be utilized.
- I. Frequency and duration of the air sampling during abatement shall be representative of the actual conditions during the abatement. The size of the asbestos project will be a factor in the number of samples required to monitor the abatement activities. The following minimum schedule of samples shall be required daily.
 1. For large asbestos projects employing full containment, area air sampling shall be performed at the following locations:
 - a. Two area samples outside the work area in uncontaminated areas of the building, remote from the decontamination facilities.
 - (1) Primary location selection shall be within 10 feet of isolation barriers.
 - (2) Where negative ventilation exhaust runs through uncontaminated building areas, one of the area samples will be required in these areas to monitor any potential fiber release.
 - (3) Where exhaust tubes have been grouped together in banks of up to five (5) tubes, with each tube exhausting separately and the bank of tubes terminating together at the same controlled area, one area air sample shall be taken.
 - b. One area sample within the uncontaminated entrance to each decontamination enclosure system.
 - c. Where adjacent non-work areas do not exist, an exterior area sample shall be taken.
 - d. One area sample within 5 feet of the unobstructed exhaust from a negative pressure ventilation system exhausting indoors but not within a duct.
 - e. One area sample outside, but within 25 feet of, the building or structure, if the entire building or structure is the work area.
 2. For large asbestos projects involving interior foam method, area air sampling shall be performed at the following sampling locations:
 - a. One area sample taken outside the work area within 10 feet of isolation barriers.

ASBESTOS ABATEMENT

- b. One area sample taken within the uncontaminated entrance to each worker decontamination and waste decontamination enclosure system.
 - c. One area sample within 5 feet of the unobstructed exhaust from a negative pressure ventilation system exhausting indoors but not within a duct, if applicable.
 - d. Three area samples inside the work area.
 - e. One area sample where the negative ventilation exhaust ducting runs through uncontaminated building areas, if applicable.
3. For large asbestos projects employing the glovebag procedure within a tent, a minimum of five continuous air samples shall be taken concurrently with the abatement for each work area, unless there are more than three enclosures, in which case two area samples per enclosure are required.
- a. Four area samples taken outside the work area within ten feet of tent enclosure(s).
 - b. One area sample taken within the uncontaminated entrance to each worker and waste decontamination enclosure system.
 - c. One area sample within five feet of the unobstructed exhaust from a negative pressure ventilation system exhausting indoors, but not within a duct, if applicable.
 - d. One area sample where negative ventilation exhaust ducting runs through uncontaminated building areas, if applicable.
4. For large asbestos projects involving exterior foam method or removal of ACM from vertical surfaces, a minimum of five continuous area samples shall be taken concurrently with the abatement for each work area using the following minimum requirements:
- a. Three area samples inside the work area and remote from the decontamination systems.
 - b. One area sample within the uncontaminated entrance to each worker and waste decontamination enclosure system.
 - c. One area sample outside the work area within 25 feet of the building or structure, if the entire building or structure is the work area.
 - d. One area sample inside the building or structure at the egress point to the work area, if applicable.

ASBESTOS ABATEMENT

5. For small asbestos projects employing full containment, a minimum of three continuous area samples shall be taken concurrently with the abatement for each work area at the following locations:
 - a. Two area samples taken outside the work area within ten feet of the isolation barriers.
 - b. One area sample within the uncontaminated entrance to each worker or waste decontamination enclosure system.
 - c. One area sample within five feet of the unobstructed exhaust from a negative pressure ventilation system exhausting indoors, but not within a duct, if applicable.
 - d. One area sample where negative ventilation exhaust ducting runs through an uncontaminated building area, if applicable.
6. Tent Procedures:

For projects involving more than 25 linear feet or 10 square feet, a minimum of three continuous samples shall be taken concurrently throughout abatement.
- J. Post-abatement clearance air monitoring for projects not solely employing glove-bag procedures shall include a minimum number of area samples inside each homogeneous work area and outside each homogeneous work area (five samples inside/five samples outside for Large Projects and three samples inside/three samples outside for Small Projects). In addition to the five sample inside/five sample outside minimum for Large Projects, one additional representative area sample shall be collected inside and outside the work area for every 5,000 square feet above 25,000 square feet of floor space where ACM has been abated.
- K. Post-abatement clearance air monitoring for Small Projects solely employing glove-bag procedures is not required unless one or more of the following events occurs. In such cases, post-abatement clearance air monitoring procedures shall be followed. The events requiring post-abatement clearance air monitoring are:
 1. The integrity of the glove-bag was compromised,
 2. Visible emissions are detected outside the glove-bag, and/or
 3. Ambient levels exceed 0.01 f/cc during abatement.
- L. Monitoring requirements for other than post-abatement clearance air monitoring are as follows:

ASBESTOS ABATEMENT

1. The sampling zone for indoor air samples shall be representative of the building occupants' breathing zone.
 2. If possible, outdoor ambient and baseline samplers should be placed about 6 feet above the ground surface in reasonable proximity to the building and away from obstructions and drafts that may unduly affect airflow.
 3. For outdoor samples, if access to electricity and concerns about security dictate a rooftop site, locations near vents and other structures on the roof that would unduly affect airflow shall be avoided.
 4. Air sampling equipment shall not be placed in corners of rooms or near obstructions such as furniture.
 5. Samples shall have a chain of custody record.
- M. Area air sampling during abatement shall be conducted as specified in the following documents except as restricted or modified herein:
1. Measuring Airborne Asbestos Following an Abatement Action, US EPA document 600/4-85-049 (Nov., 1985);
 2. Guidance for Controlling Asbestos-Containing Materials in Buildings; US EPA Publication 560/5-85-024 (June, 1984);
 3. Methodology for the Measurement of Airborne Asbestos by Electron Microscopy US EPA Contract No. 68-02-3266;
 4. Mandatory and non-mandatory Electron Microscopy Methods set forth in 40 CFR Part 763, Subpart E, Appendix A.
 5. NIOSH 7400 method using "A" counting rules
- N. In accordance with the above criteria, area samples (see NYCDEP Asbestos Control Program Regulations) shall conform to the following schedule:

Area Samples for Analysis by	Minimum Volume	Flow Rate
PCM, 25mm cassettes	560 liters	5 to 15 liters/minute
TEM, 25mm cassettes	560 liters	1 to 10 liters/minute
TEM, 37mm cassettes	1,250 liters	1 to 10 liters/minute

- O. Post-abatement clearance air monitoring requirements are as follows:
1. Sampling shall not begin until at least one hour after wet cleaning has been completed and no visible pools of water or condensation remain.

ASBESTOS ABATEMENT

2. Samplers shall be placed at random around the work area. If the work area contains the number of rooms equivalent to the number of required samples based on floor area, a sampler shall be placed in each room. When the number of rooms is greater than the required number of samples, a representative sample of rooms shall be selected.
 3. The representative samplers placed outside the work area but within the building shall be located to avoid any air that might escape through the isolation barriers and shall be approximately 50 feet from the entrance to the work area, and 25 feet from the isolation barriers.
- P. The following aggressive sampling procedures shall be used within the work area during all clearance air monitoring:
1. Before starting the sampling pumps, use forced air equipment (such as a one horsepower leaf blower) to direct exhaust air against all walls, ceilings, floors, ledges and other surfaces in the work area. This pre-sampling procedure shall take at least five minutes per 1,000 square feet of floor area; then
 2. Place a 20-inch diameter fan in the center of the room. Use one fan per 10,000 cubic feet of room space. Place the fan on slow speed and point it toward the ceiling.
 3. Start the sampling pumps and sample for the required time or volume.
 4. Turn off the pump and then the fan(s) when sampling is completed.
 5. Collect a minimum number of area samples inside and outside each homogeneous work area (five inside/five outside samples for Large Projects and three inside/three outside samples for Small Projects). In addition to the minimum for Large Projects, one representative area samples shall be collected inside and outside the work area for every 5,000 square feet above 25,000 square feet of floor space where ACM has been abated.
- Q. For post-abatement monitoring, area samples shall conform to the following schedule:

Area Samples for Analysis by	Minimum Volume	Flow Rate
PCM	1,800 liters	5 to 15 liters/minute
TEM	1,250 liters	1 to 10 liters/minute

1. Each homogeneous work area that does not meet the clearance criteria shall be thoroughly re-cleaned using wet methods, with the negative pressure ventilation system in operation. New samples shall be collected in the work area as described above. The process shall be repeated until the work site meets the clearance criteria.

ASBESTOS ABATEMENT

2. For an asbestos project with more than one homogeneous work area, the release criterion shall be applied independently to each work area.
3. Should airborne fiber concentrations exceed the clearance criteria, the asbestos abatement contractor shall re-clean the work area utilizing wet wiping and HEPA-vacuuming techniques. Following completion of re-cleaning activities, the Third-Party Air Monitor will perform an observation of the Work Area. If the Third-Party Air Monitor determines that the work was performed in accordance with the specifications, the appropriate settling period will be observed and additional air sampling will be performed.
4. All costs resulting from additional air tests and observations shall be borne by the asbestos abatement contractor. These costs may include, but are not limited to, labor, analysis fees, materials, and expenses.
5. After the area has been found to be in compliance, the asbestos abatement contractor may remove Isolation Barriers and perform final cleaning as specified.

R. Clearance and/or Re-occupancy Criteria:

1. The clearance criteria shall be applied to each homogeneous work area independently.
2. For PCM analysis, the clearance air monitoring shall be considered satisfactory when each of the 5 inside/5 outside samples for Large Projects and/or 3 inside/3 outside samples for Small Projects is less than or equal to 0.01 f/cc or the background concentrations, whichever is greater.
3. For TEM analysis, the clearance air monitoring shall be considered satisfactory when the requirements stated in 40 CFR Part 763, Subpart E, Appendix A, Section IV are met.
4. As soon as the air monitoring tests are completed, the Third-Party Air Monitor will send the results of such tests to the City and notify the Asbestos abatement contractor.
5. The asbestos abatement contractor shall initiate the appropriate closeout information into the DEP ARTS database within 24 hours of work area completion to allow the Third Party Air Monitoring Firm to complete and submit the ACP-15 forms for each specific work area.
6. The asbestos abatement contractor shall provide the ACP-20 and ACP-21 forms to the Third Party Air Monitoring Firm within 48 hours of receipt.

ASBESTOS ABATEMENT

1.19 TAMPERING WITH TEST EQUIPMENT

All parties to this Contract are hereby notified that any tampering with testing equipment will be considered an attempt at falsifying reports and records to federal and state agencies and each offense will be prosecuted under applicable state and federal criminal codes to the fullest extent possible.

1.20 GUARANTEE

- A. Work performed in compliance with this Contract shall be guaranteed for a period of one year from the date the completed work is accepted by the City.
- B. The asbestos abatement contractor shall not be held liable for the guarantee where the repair required under the guarantee is a result of obvious abuse or vandalism, as determined by the Commissioner.
- C. The City will notify the asbestos abatement contractor in writing regarding defects in work under the guarantee.

PART 2 – PRODUCTS

2.01 MATERIAL HANDLING

- A. Deliver all materials to the job site in their manufacturer's original container, with the manufacturer's label intact and legible.
 - 1. Maintain packaged materials with seals unbroken and labels intact until time of use.
 - 2. Store all materials on pallets, away from any damp and/or wet surface. Cover materials in order to prevent damage and/or contamination.
 - 3. Promptly remove damaged materials and unsuitable items from the job site, and promptly replace with material meeting the specified requirements, at no additional cost to the City.
- B. The Construction Project Manager may reject as non-complying such material and products that do not bear identification satisfactory to the Construction Project Manager as to manufacturer, grade, quality and other pertinent information.

2.02 MATERIALS

- A. Wetting agents: (Surfactant) shall consist of resin materials in a water base, which have been tested to ensure materials are non-toxic and non-hazardous. Surfactants shall be installed according to the manufacturer's written instructions.

ASBESTOS ABATEMENT

- B. Encapsulants: Liquid material which can be applied to asbestos-containing material which temporarily controls the possible release of asbestos fibers from the material or surface either by creating a membrane over the surface (bridging encapsulant) or by penetrating into the material and binding its components together (penetrating encapsulant). A thin coat of lockdown encapsulant shall be applied to all surfaces in the work area which were not the subject of removal or abatement, including the cleaned layer of the surface barriers, but excepting sprinklers, standpipes, and other active elements of the fire suppression system.
- C. During abatement activities, replacement materials shall be stored outside the work area in a manner to prevent contamination. Materials required for the asbestos project (i.e., plastic sheeting, replacement filters, duct tape, etc.) shall be stored to prevent damage or contamination.
- D. Framing Materials and Doors: As required to construct temporary decontamination facilities and isolation barriers. Lumber shall be high grade, new, finished one side and fire retardant.
- E. Fire Retardant Polyethylene Sheeting: minimum uniform thickness of 6-mil. Provide largest size possible to minimize seams. All materials used in the construction of temporary enclosures shall be noncombustible or fire-retardant in accordance with NFPA 701 and 255.
- F. Fire Retardant Reinforced Polyethylene Sheeting: For covering floor of decontamination units, provide translucent, nylon reinforced or woven polyethylene laminated, fire retardant polyethylene sheeting. Provide largest size possible to minimize seams, minimum uniform thickness 6-mil. All materials used in the construction of temporary enclosures shall be noncombustible or fire-retardant in accordance with NFPA 701 and 255.
- G. Drums: Asbestos-transporting drums, sealable and clearly marked with warning labels as required by OSHA and EPA.
- H. Polyethylene Disposal Bags: Asbestos disposal bags, minimum of fire retardant 6-mil thick. Bags shall be clearly marked with warning labels as required by OSHA and EPA.
- I. Signs: Asbestos warning signs for posting at perimeter of Work Area, as required by OSHA and EPA.
- J. Waste Container Bag Liners and Flexible Trailer Trays: One piece leak-resistant flexible tray with absorbent pad.
- K. Tape: Provide tape which is of high quality with an adhesive that is formulated to aggressively stick to sheet polyethylene.

ASBESTOS ABATEMENT

- L. Spray Adhesive: Provide spray adhesive in aerosol cans which is specifically formulated to stick tenaciously to sheet polyethylene.
- M. Flexible Duct: Spiral reinforced flex duct for air filtration devices.
- N. Protective Clothing: Workers shall be provided with sufficient sets of properly fitting, full-body, disposable coveralls, head covers, gloves, and 18-inch high boot-type foot covers. Protective clothing shall conform to OSHA Standard 29 CFR 1926.1101.
- O. Surfactants, strippers, sealers, or any other chemicals used shall be non-carcinogenic and non-toxic.
- P. Materials used in the construction of temporary enclosures shall be noncombustible or fire-retardant in accordance with NFPA 701 and 255.

2.03 TOOLS AND EQUIPMENT

- A. Air Filtration Device (AFD): AFDs shall be equipped with High Efficiency Particulate Air (HEPA) filtration systems and shall be approved by and listed with Underwriter's Laboratory.
- B. Scaffolding: All scaffolding shall be designed and constructed in accordance with OSHA (29 CFR 1926/1910), New York City Building Code, and any other applicable federal, state and local government regulations. Whenever there is a conflict or overlap of the above references the most stringent provisions are applicable. All scaffolding and components shall be capable of supporting without failure a minimum of four times the maximum intended load, plus an allowance for impact. All scaffolding and staging must be certified in writing by a Professional Engineer licensed to practice in the State of New York.
 - 1. Equip rungs of all metal ladders, etc., with an abrasive, non-slip surface.
 - 2. Provide non-skid surface on all scaffold surfaces subject to foot traffic. Scaffold ends and joints shall be sealed with tape to prevent penetration of asbestos fibers.
- C. Transportation Equipment: Transportation Equipment, as required, shall be suitable for loading, temporary storage, transit and unloading of asbestos contaminated waste without exposure to persons or property. Any temporary storage containers positioned outside the building for temporary storage shall be metal, closed and locked.
- D. Vacuum Equipment: All vacuum equipment utilized in the Work Area shall utilize HEPA filtration systems.

ASBESTOS ABATEMENT

- E. Vacuum Attachments: Soft Brush Attachment, Asbestos Scraper Tool, Drill Dust Control Kit.
- F. Electric Sprayer: An electric airless sprayer suitable for application of encapsulating material and shall be approved by and listed with Underwriters Laboratory.
- G. Water Sprayer: The water sprayer shall be an airless or other low-pressure sprayer for amended water application.
- H. Water Atomizer: Powered air-misting device equipped with a ground fault interrupter and equipped to operate continuously.
- I. Brushes: All brushes shall have nylon bristles. Wire brushes are excluded from use due to their potential to shred asbestos fibers into small, fine fibers. Wire brushes maybe used for cleaning pipe joints within glove-bags upon written approval of the Construction Project Manager.
- J. Power tools used to drill, cut into, or otherwise disturb ACM shall be manufacturer-equipped with HEPA filtered local exhaust ventilation. Abrasive removal methods, including the use of beadblasters, are prohibited.
- K. Other Tools and Equipment: Asbestos abatement contractor shall provide other suitable tools for the stripping, removal, encapsulation, and disposal activities including but not limited to: hand-held scrapers, sponges, rounded-edge shovels, brooms, and carts.
- L. Fans and Leaf Blower: Provide Leaf Blower (one leaf blower per floor) and one 20-inch diameter fans for each 10,000 cubic feet of Work Area volume to be used for aggressive sampling technique for clearance air testing.
- M. Fire Extinguishers: At least one fire extinguisher with a minimum rating 2-A:10-B:C shall be required for each work place. In the case of large asbestos projects, at least two such fire extinguishers shall be required.
- N. First Aid Kits: Asbestos abatement contractor shall maintain adequately stocked first aid kits in the clean rooms of the decontamination units and within Work Areas. The first aid kit shall be approved by a licensed physician for the work to be performed under this Contract.
- O. Water Service:
 - 1. Temporary Water Service Connection: All connections to the Facilities water system shall include back flow protection. Valves shall be temperature and pressure rated for operation of the temperature and pressures encountered. After completion of use, connections and fittings shall be removed without damage or alteration to existing water piping, and

ASBESTOS ABATEMENT

equipment. Leaking or dripping fittings/valves shall be repaired and or replaced as required.

2. **Water Hoses:** Employ new heavy-duty abrasion-resistant hoses with a pressure rating greater than the maximum pressure of the water distribution system to provide water into each Work Area and to each Decontamination Enclosure Unit. Provide fittings as required for connection to existing wall hydrants or spouts, as well as temporary water heating equipment, branch piping, showers, shut-off nozzles and equipment.
3. **Water Heater:** Provide UL rated 40-gallon electric water heaters to supply hot water for Personal Decontamination Enclosure System Shower. Activate from 30 Amp Circuit breakers located within the Decontamination Enclosure sub panel. Provide relief valve compatible with water heater operations, pipe relief valve down to drip pan at floor level with type 'L' copper piping. Drip pans shall be 6-inch deep and securely fastened to water heater. Wiring of the water heater shall comply with NEMA, NECA, and UL standards.

P. Electrical Service:

1. **General:** Comply with applicable NEMA, NECA and UL standards and governing regulations for materials and layout of temporary electric service.
2. **Temporary Power:** Provide service to decontamination unit sub panel with minimum 60 AMP, two pole circuit breaker or fused disconnect connected to the building's main distribution panel. Sub panel and disconnect shall be sized and equipped to accommodate all electrical equipment required for completion of the work.
3. **Voltage Differences:** Provide identification warning signs at power outlets that are other than 110-120 volt power. Provide polarized outlets for plug-in type outlets, to prevent insertion of 110-120 volt plugs into higher voltage outlets. Dry type transformers shall be provided where required to provide voltages necessary for work operations.
4. **Ground Fault Protection:** Equip all circuits for any purpose entering Work Area with ground fault circuit interrupters (GFCI). Locate the GFCIs outside the Work Area so that all circuits are protected prior to entry to Work Area. Provide circuit breaker type ground fault circuit interrupters (GFCI) equipped with test button and reset switch for all circuits to be used for any purpose in Work Area, decontamination units, exterior, or as otherwise required by NEC, OSHA or other authority.
5. **Power Distribution System:** Provide circuits of adequate size and proper characteristics for each use. In general run wiring overhead, and rise vertically where wiring will be least subject to damage from operations.

ASBESTOS ABATEMENT

6. Temporary Wiring: In the Work Area shall be type UF non-metallic sheathed cable located overhead and exposed for surveillance. Provide liquid tight enclosures or boxes for all wiring devices. Do not wire temporary lighting with plain, exposed (insulated) electrical conductors.
7. Electrical Power Cords: Use only grounded extension cords; use hard service cords where exposed to traffic and abrasion. Use single lengths of cords only.
8. Temporary Lighting: All lighting within the Work Area shall be liquid and moisture proof and designed for the use intended.
 - a. Provide sufficient temporary lighting to ensure proper workmanship everywhere; by combined use of daylight, general lighting, and portable plug-in task lighting.
 - b. Provide lighting in the Decontamination Unit as required to supply a minimum 50-foot candle light level.
9. If electrical circuits, machinery, and other electrical systems in or passing through the work area must stay in operation due to health and safety requirements, the following precautions must be taken:
 - a. All unprotected cables, except low-voltage (less than 24 volts) communication and control system cables, panel boxes of cables and joints in live conduit that run through the work area shall be covered with three (3) independent layers of six (6) mil fire retardant polyethylene. Each layer shall be individually duct taped and sealed. All three (3) layers of polyethylene sheeting shall be left in place until satisfactory clearance air sampling results have been obtained.

2.04 CLEANING

- A. Throughout the construction period, the asbestos abatement contractor shall maintain the building as described in this Section.
 1. The asbestos abatement contractor shall prevent building areas other than the Work Area from becoming contaminated with asbestos-containing dust or debris. Should areas outside the Work Area become contaminated with asbestos-containing dust or debris as a consequence of the asbestos abatement contractor's work practices, the asbestos abatement contractor shall be responsible for cleaning these areas in accordance with the procedures appended in Title 15, Chapter 1 of RCNY and NYSDOL ICR56. All costs incurred in cleaning or otherwise decontaminating non-Work Areas and the contents thereof shall be borne by the asbestos abatement contractor at no additional cost to the City.

ASBESTOS ABATEMENT

2. The asbestos abatement contractor shall provide to all personnel and laborers the required equipment and materials needed to maintain the specified standard of cleanliness.

B. General

1. Waste water from asbestos removal operations, including shower water, may be discharged into the public sewer system only after approved filtration is on operation to remove asbestos fibers.
2. Asbestos wastes shall be double bagged in six mil (.006") fire retardant polyethylene bags approved for ACM disposal and shall be properly labeled and handled before disposal.
3. All waste generated shall be bagged, wrapped or containerized immediately upon removal. The personal and waste decontamination enclosure systems and floor and scaffold surfaces shall be HEPA vacuumed and wet cleaned at the end of each work shift at a minimum.
4. The asbestos abatement contractor shall use corrugated cartons or drums for disposal of asbestos-containing waste having sharp edged components (e.g., nails, screws, metal lathe and tin sheeting) that may tear polyethylene bags and sheeting. The waste within the drums or cartons must be double bagged.
5. The asbestos abatement contractor shall transport all bags of waste to disposal site in thirty gallon capacity metal or fiber drums with tight lids, or in locked steel dumpster.
6. Dumping of debris, waste or bagged waste will not be permitted.
7. The waste decontamination enclosure system shall be wet cleaned twice using wet cleaning methods upon completion of waste removal. When the worker decontamination enclosure shower room alternates as a waste container wash room, the shower room shall be washed immediately with cloths or mops saturated with a detergent solution prior to wet cleaning.
8. Excessive water accumulation or flooding in the work area shall require work to stop until the water is collected and disposed of properly.
9. ACM shall be collected utilizing rubber dust pans and rubber squeegees.
10. HEPA vacuums shall not be used on wet materials unless specifically designed for that purpose.
11. Metal shovels shall not be used within the work area.

ASBESTOS ABATEMENT

12. Mastic solvent when used will be applied in moderation (e.g., by airless sprayer). Saturation of the concrete floor with mastic solvent must be avoided.
13. The asbestos abatement contractor shall retain all items in the storage area in an orderly arrangement allowing maximum access, not impeding traffic, and providing the required protection of all materials.
14. The asbestos abatement contractor shall not allow accumulation of scrap, debris, waste material, and other items not required for use in this work. When asbestos contaminated waste must be kept on the work site overnight or longer, it shall be double bagged and stored in accordance with New York City Department of Sanitation (NYCDOS) regulation Title 16 Chapter 8, and Federal, State and City laws.
15. At least twice a week (more if necessary), the asbestos abatement contractor shall completely remove all scrap, debris and waste material from the job site.
16. The asbestos abatement contractor shall provide adequate storage space for all items awaiting removal from the job site, observing all requirements for fire protection and concerns for the environment.
17. All respiratory protection equipment shall be selected from the latest NIOSH Certified Equipment list.
18. Daily and more often, if necessary, the asbestos abatement contractor shall inspect the Work Areas and adjoining spaces, and pick up all scrap, debris, and waste material. All such items shall be removed to the place designated for their storage.
19. Weekly, and more often, if necessary, the asbestos abatement contractor shall inspect all arrangements of materials stored on the site; re-stack and tidy them or otherwise service them to meet the requirements of these Specifications.
20. The asbestos abatement contractor shall maintain the site in a neat and orderly condition at all times.

PART 3 – EXECUTION

3.01 WORKER DECONTAMINATION FACILITY

A. Large Asbestos Projects (Small Project Option):

1. Provide a worker decontamination facility in accordance with, Title 15, Chapter 1, OSHA Standard 29 CFR 1926.1101, 12NYCRR Part 56 and as specified herein. Unless approved by NYCDEP and the City, worker decontamination facilities shall be attached to the Work Areas

a. Structure:

- (1) Use modular systems or build using wood or metal frame studs, joists, and rafters placed at a maximum of 16 inches on-center.
- (2) When worker decontamination unit is located outdoors, in areas with public access, or in correctional facilities, frame work shall be lined with minimum 3/8" thickness fire rated plywood sheathing. Sheathing shall be caulked or taped airtight at all joints and seams.
- (3) Interior shall be covered with two layers of fire retardant 6-mil polyethylene sheeting, with a minimum overlap of 12 inches at seams. Seal seams airtight using tape and adhesive. The interior floor shall be covered with two (2) layers of reinforced fire-retardant polyethylene sheeting with a minimum overlap on the walls of twelve inches.
- (4) Entrances to the decontamination unit shall be secured with lockable hinged doors. Doors shall be open at all times when abatement operations are in progress. Doors shall be louvered to allow for air movement through the decontamination units into Work Area.

- b. Curtained Doorways: A device to allow ingress or egress from one room to another while permitting minimal air movement between the rooms.

- c. Air Locks: Air locks shall consist of two curtained doorways placed a minimum of three feet apart.

- d. Decontamination Enclosure System shall be placed adjacent to the Work Area and shall consist of three totally enclosed chambers, separated from Work Area and each other by airlocks, as follows:

ASBESTOS ABATEMENT

- (1) **Equipment Room:** The equipment room shall have a curtain doorway to separate it from the Work Area, and share a common airlock with the shower room. The equipment room shall be large enough to accommodate at least one worker (allowing them enough room to remove their protective clothing and footwear), and a fire retardant 6-mil disposal bag for collection of discarded clothing and equipment. The equipment room shall be utilized for the storage of equipment and tools after decontamination using a HEPA-vacuum and/or wet cleaning. A one-day supply of replacement filters, in sealed containers, for HEPA-vacuums and negative air machines, extra tools, containers of surfactant, and other materials and equipment required for the project shall be stored here. A walk-off pan filled with water shall be placed in the Work Area just outside the equipment room for persons to clean foot coverings when leaving the Work Area. Contaminated footwear and reusable work clothing shall be stored in this room.
- (2) **Shower Room:** The shower room shall have two airlocks (one that separates it from the equipment room and one that separates it from the clean room). The shower room shall contain at least one shower, with hot and cold water adjustable at the tap, per six workers. Careful attention shall be given to the shower to ensure against leaking of any kind and shall contain a rigid catch basin at least six inches deep. Asbestos abatement contractor shall supply towels, shampoo and liquid soap in the shower room at all times. Shower water shall be continuously drained, collected, and filtered through a system with at least a 5-micron particle size collection capacity. A system containing a series of several filters with progressively smaller pore sizes shall be used to avoid rapid clogging of the filters by large particles. Pumps shall be installed, maintained and utilized in accordance with manufacturer's recommendations. Filtered water shall be discharged in accordance with applicable codes. Contaminated filters shall be disposed of as asbestos waste.
- (3) **Clean Room:** The clean room shall share a common airlock with the shower room and shall have a curtained doorway to separate it from outside non-contaminated areas. Lockers, for storage of workers' street clothing, and shelves, for storing respirators, shall be provided in this area. Clean disposable clothing, replacement filters for respirators, and clean dry towels shall be provided in the clean room. The clean room shall not be used for the storage of tool, equipment or other materials.

ASBESTOS ABATEMENT

B. Small Asbestos Projects:

1. Provide a worker decontamination facility in accordance with, Title 15, Chapter 1, OSHA Standard 29 CFR 1926.1101, 12NYCRR Part 56 and as specified herein. Unless approved by NYCDEP and the City, worker decontamination facilities shall be attached to the Work Areas.
2. The worker decontamination enclosure system shall consist of, as a minimum, an equipment room, a shower room, and a clean room separated from each other and from the work area by curtained doorways. The equipment storage, personnel gross decontamination and removal of disposal clothing shall occur in the equipment room prior to entering the shower. All other requirements shall be the same as described above for a large asbestos project.
3. For small asbestos projects with only one exit from the work area, the shower room may be used as a waste washroom. The clean room shall not be used for waste storage. All other requirements shall be the same as described above for a large asbestos project.

- C. Decontamination Enclosure System Utilities: Lighting, heat, and electricity shall be provided as necessary by the Asbestos abatement contractor, and as specified herein.

3.02 WASTE DECONTAMINATION FACILITY

A. Large Asbestos Project (Small Project Option)

1. Provide a worker decontamination facility in accordance with, Title 15, Chapter 1, OSHA Standard 29 CFR 1926.1101, 12NYCRR Part 56 and as specified herein. Unless approved by NYCDEP and the City, worker decontamination facilities shall be attached to the Work Areas.
 - a. Structure:
 - (1) Use modular systems or build using wood or metal frame studs, joists, and rafters placed at a maximum of 16 inches on-center.
 - (2) When worker decontamination unit is located outdoors, in areas with public access, or in correctional facilities, frame work shall be lined with minimum 3/8" thickness fire rated plywood sheathing. Sheathing shall be caulked or taped airtight at all joints and seams.

ASBESTOS ABATEMENT

- (3) Interior walls shall be covered with two layers of fire retardant 6-mil polyethylene sheeting, with a minimum overlap of 12 inches at seams. Seal seams airtight using tape and adhesive. The interior floor shall be covered with two (2) layers of reinforced fire-retardant polyethylene sheeting with a minimum overlap on the walls of twelve inches.
 - (4) Entrances to the decontamination unit shall be secured with lockable hinged doors. Doors shall be open at all times when abatement operations are in progress. Doors shall be louvered to allow for air movement through the decontamination units into the Work Area.
- b. Curtained Doorways: A device to allow ingress or egress from one room to another while permitting minimal air movement between the rooms.
- c. Air Locks: Air locks shall consist of two curtained doorways placed a minimum of three feet apart.
- d. Decontamination Enclosure System shall be located outside the work area and attached to all locations through which ACM waste will be removed from the work area and shall consist of two totally enclosed chambers, separated from the Work Area and each other by airlocks, as follows:
 - (1) Washroom: An equipment washroom shall have two air locks (one separating the unit from the Work Area and one common air lock that separates it from the holding area). The washroom shall have facilities for washing material containers and equipment. Gross removal of dust and debris from contaminated material containers and equipment shall be accomplished in the Work Area, prior to moving to the washroom.
 - (2) Holding Area: A holding area shall share a common air lock with the equipment washroom and shall have a curtained doorway to outside areas. A hinged, lockable door shall be placed at the holding area entrance to prevent unauthorized access into the Work Area.

ASBESTOS ABATEMENT

B. Small Asbestos Project:

1. The worker decontamination enclosure system shall consist of, as a minimum, an equipment room, a shower room, and a clean room separated from each other and from the work area by curtained doorways. The equipment storage, personnel gross decontamination and removal of disposal clothing shall occur in the equipment room prior to entering the shower. All other requirements shall be the same as described above for a large asbestos project.
2. For small asbestos projects with only one exit from the work area, the shower room may be used as a waste washroom. The clean room shall not be used for waste storage. All other requirements shall be the same as described above for a large asbestos project.

- C. Decontamination Enclosure System Utilities: Lighting, heat, and electricity shall be provided as necessary by the Asbestos abatement contractor, and as specified herein.

3.03 PERSONNEL ENTRANCE AND DECONTAMINATION PROCEDURES FOR REMOVAL OPERATIONS UTILIZING REMOTE DECONTAMINATION FACILITIES

- A. All individuals who enter the Work Area shall sign the entry log, located in the clean room, upon each entry and exit. The log shall be permanently bound and shall fully identify the facility, agents, asbestos abatement contractor(s), the project, each Work Area, and worker respiratory protection employed. The job supervisor shall be responsible for the maintenance of the log during the abatement activity. The log shall be submitted to the NYC DDC within 48 hours of request.
- B. Each worker shall remove street clothes in the clean room; wear two disposable suits, including gloves, hoods and non-skid footwear; and put on a clean respirator (with new filters) before entering the Work Area.
- C. Each worker shall, before leaving the Work Area or tent, clean the outside of the respirators and outer layer of protective clothing by wet cleaning and/or HEPA-vacuuming. The outer disposable suit shall be removed in the airlock prior to proceeding to the Worker Decontamination Unit. The inner disposable suit and respirator shall be wet wiped and HEPA vacuumed thoroughly before removing and prior to aggressive shower.
- D. Following showering and drying off, each worker or authorized visitor shall proceed directly to the clean room, dress in street clothes, and exit the decontamination enclosure system immediately.

3.04 PERSONNEL ENTRANCE AND DECONTAMINATION PROCEDURES FOR REMOVAL OPERATIONS UTILIZING ATTACHED DECONTAMINATION FACILITIES

- A. All workers and authorized visitors shall enter the Work Area through the worker decontamination facility.
- B. All individuals who enter the Work Area shall sign the entry log, located in the clean room, upon each entry and exit. The log shall be permanently bound and shall identify fully the facility, agents, asbestos abatement contractor(s), the project, each Work Area and worker respiratory protection employed. The site supervisor shall be responsible for the maintenance of the log during the abatement activity. The log shall be submitted to the NYC DDC within 48 hours of request.
- C. Each worker or authorized visitor shall, upon entering the job site, remove street clothes in the clean room and put on a clean respirator with filters, and clean protective clothing before entering the Work Area through the shower room and equipment room.
- D. Each worker or authorized visitor shall, each time he leaves the Work Area, remove gross contamination from clothing before leaving the Work Area; proceed to the equipment room and remove clothing except the respirator; still wearing the respirator, proceed to the shower room; clean the outside of the respirator with soap and water while showering; remove filters, wet them, and dispose of them in the container provided for that purpose; wash and rinse the inside of the respirator; and thoroughly shampoo and wash himself/herself.
- E. Following showering and drying off, each worker or authorized visitor shall proceed directly to the clean room, dress in street clothes, and exit the decontamination enclosure system immediately. Disposable clothing of the type worn inside the Work Area is not permitted outside the Work Area.

3.05 MAINTENANCE OF DECONTAMINATION ENCLOSURE FACILITIES AND BARRIERS

The following procedures shall be followed during abatement activities.

- A. All polyethylene barriers inside the work place and partitions constructed to isolate the Work Area from occupied areas shall be inspected by the asbestos handler supervisor at least twice per shift.
- B. Smoke tubes shall be used to test the integrity of the Work Area barriers and the decontamination enclosure systems daily before abatement activity begins and at the end of each shift.

ASBESTOS ABATEMENT

- C. Damage and defects in the decontamination enclosure system shall be repaired immediately upon discovery. The decontamination enclosure system shall be maintained in a clean and sanitary condition at all times.
- D. At any time during the abatement activity, if visible emissions are observed, or elevated asbestos fiber counts outside the Work Area are measured, or if damage occurs to barriers, abatement shall stop. The source of the contamination shall be located, the integrity of the barriers shall be restored and extended to include the contaminated area, and visible residue shall be cleaned up using appropriate HEPA-vacuuming and wet cleaning.
- E. Inspections and observations shall be documented in the daily project log by the asbestos handler supervisor.
- F. The daily inspection to ensure that exits have been checked against exterior blockage or impediments to exiting shall be documented in the log book. If exits are found to be blocked, abatement activities shall stop until the blockage is cleared.

3.06 MODIFICATIONS TO HVAC SYSTEMS

- A. Shut down, isolate or seal, all existing HVAC units, fans, exhaust fans, perimeter convection air units, supply and/or return air ducts, etc., situated in, traversing or servicing the work zone.
- B. Seal all seams with duct tap. Wrap entire duct with a minimum of two layers of fire retardant 6-mil polyethylene sheeting. All shutdowns are to be coordinated with the Facility. Where systems must be maintained, i.e., traversing Work Areas to non-Work Areas, only supply ducts will be maintained, protect as described above. All returns must be blanked off in Work Area and adjacent areas, including floor above and below Work Area. When required Asbestos abatement contractor shall apply for a clarification from NYCDEP. The Asbestos abatement contractor shall implement the following engineering procedures:
 - 1. Maintenance of a positive pressure within the HVAC system of 0.01 inch water gauge (or greater) with respect to the ambient pressure outside the Work Area. The conditions for this system shall be maintained and be operational 24 hours per day from the initiation of Work Area preparation until successful final air clearance. Positive pressurization of HVAC system shall be applied only under the direction and control of professional engineer, or other knowledgeable licensed professional;
 - 2. The positive pressurization of the duct shall be tested, inspected and recorded both at the beginning and at the end of each shift;

ASBESTOS ABATEMENT

3. The positive pressurization shall be monitored using instrumentation which will provide a written record of pressurization and that will trigger an audible alarm, if the static pressure falls below the set value;
 4. The supply air fan and the supply air damper for the active positive-pressurized duct shall be placed in the manual "on" positions to prevent shutdown by fail-safe mechanisms;
 5. The return air fan and the return air dampers shall be shut down and locked-out;
 6. All the seams of the HVAC ducts that pass through the Work Area shall be sealed;
 7. The HVAC ducts that pass through the Work Area shall be covered with two (2) layers of fire retardant 6-mil polyethylene sheeting, and all seams and edges of both layers shall be sealed airtight;
 8. The supply air fans, return air fans, and all dampers servicing the Work Area itself shall be shut down and locked-out. All openings within the Work Area of supply and return air ducts shall be sealed with 3/8-inch fire rated plywood and two layers of fire retardant 6-mil polyethylene;
 9. When abatement occurs during periods while the HVAC system is shut down an alternative method of pressurization of the duct passing through the Work Area should be employed (e.g., by low-pressure "blowers", etc., directly coupled into the duct). Item #4 above shall be deleted and shall be replaced by the requirement to set the dampers of the HVAC duct in the manual closed positions, in order to effect pressurization.
- C. Asbestos abatement contractor to coordinate this item with the Facility and Construction Project Manager at the commencement of work. Where present HVAC systems (ducts) service an area and that air system cannot be shut down, asbestos abatement contractor shall isolate and seal the ducts, both supply and return, at the boundary of that zone.
1. To isolate, cap, or seal a duct, the asbestos abatement contractor shall remove insulation from duct (if necessary), then disconnect linkage to fold shut all fire dampers. Asbestos abatement contractor shall seal all edges and seams with caulk and duct-tape.
 2. Asbestos abatement contractor shall then cut existing duct and fold metal in and secure with approved fasteners. Asbestos abatement contractor shall caulk and duct-tape all seams and edges.
 3. All ducts shall then be completely wrapped and sealed with duct-tape and three (3) layers of reinforced polyethylene sheeting.

ASBESTOS ABATEMENT

4. All ducts shall be restored to original working order at the end of the project.
- D. Where present HVAC systems (ducts) service occupied areas (non-Work Areas), the Asbestos abatement contractor shall blank off the ducts.
1. To isolate or seal the return duct, the asbestos abatement contractor shall remove any insulation (if necessary) from the duct. Then disconnect linkage to fold shut all fire dampers and insert a fiberglass board within the duct. Asbestos abatement contractor shall seal all edges and seams with caulk, duct-tape and three (3) layers of reinforced polyethylene sheeting.
 2. All isolation of return ducts and any other activity that requires removal of ceiling by the asbestos abatement contractor shall be conducted under controls. Work is to be coordinated with the Construction Project Manager and the Facility and is described as follows:
 - a. Work shall occur as scheduled.
 - b. Horizontal surfaces near the blanking operations shall be protected with fire retardant 6-mil polyethylene sheeting.
 - c. Plastic drapes shall be used to enclose the immediate area.
 - d. Asbestos abatement contractor to position and operate air filtration devices and HEPA-vacuums in the area to clean space after blanking operations.
 - e. All personnel involved with this work shall receive personal protection (i.e., respirators and disposable suits).
- E. Upon loss of negative pressure or electric power, all work activities in an area shall cease immediately and shall not resume until negative pressure and/or electric power has been fully restored. When a power failure or loss of negative pressure lasts, or is expected to last, longer than thirty (30) minutes, the following sequence of events shall occur.
1. All make up air inlets shall be sealed airtight.
 2. All decontamination facilities shall be sealed airtight after evacuation of all personnel from the Work Area.
 3. All adjacent areas shall be monitored for potential fiber release upon discovery of and subsequently throughout, power failure.

3.07 LOCKOUT OF HVAC SYSTEMS, ELECTRIC POWER, AND ACTIVE BOILERS

Prior to the start of any prep work, the asbestos abatement contractor shall employ skilled tradesmen with limited asbestos licenses for the following work:

- A. Disable all ventilating systems or other systems bringing air into or exhausting air out of the Work Area. Disable system by disconnecting wires removing circuit breakers, by lockable switch or other positive means to ensure against accidental re-starting of equipment.
- B. Lock out power to the Work Area by switching off all breakers and removing them from panels or by switching and locking entire panel. Label panel with following notation: "DANGER CIRCUIT BEING WORKED ON". Give all keys to Facility.
- C. Lock out power to circuits running through Work Area whenever possible by switching off and removing breakers from panel. If circuits must remain live, the Facility shall notify asbestos abatement contractor in order that he may secure a variance from NYCDEP. The asbestos abatement contractor shall protect all conduit and wires to remain and label all active circuits at intervals not to exceed 3 feet with tags having the following notation: "DANGER LIVE ELECTROCUTION HAZARD". The asbestos abatement contractor shall label all circuits in all locations including hidden locations that may be affected by the work in a similar manner.
- D. All boilers and other equipment within the work area shall be shut down, locked out, tagged out and the burner/boiler/equipment accesses and openings shall be sealed until abatement activities are complete. If the boiler or other exhausted equipment will be subject to abatement, all breeching, stacks, columns, flues, shafts, and double-walled enclosures serving as exhausts or vents shall be segregated from the affected boiler or equipment and sealed airtight to eliminate potential chimney effects within the work area.

PART 4 – PREPARATION OF WORK AREA AND REMOVAL PROCEDURES

4.01 REMOVAL OF ASBESTOS-CONTAINING MATERIAL

- A. Asbestos abatement contractor Responsibility

Asbestos abatement contractor shall be responsible for the proper removal of ACM from the Work Area using standard industry techniques. The Third-Party Air Monitor representative shall observe the Work.

ASBESTOS ABATEMENT

I. General Requirements:

- a. Removal of ACM shall be performed using wet methods. Dry removal of ACM is prohibited.
- b. Spray ACM with amended water with sufficient frequency and quantity to enhance penetration. Sufficient time shall be allowed for amended water to penetrate the material to the substrate prior to removal. All ACM shall be thoroughly wetted while work is being conducted.
- c. Accumulation of standing water on the floor of the Work Area is prohibited.
- d. Apply removal encapsulants, when used, in accordance with the manufacturer's recommendations and guidelines.
- e. Containerize ACM immediately upon detachment from the substrate. Alternately, ACM may be dropped in to a flexible catch basin and promptly bagged. Detached ACM is not permitted to lie on the floor for any period of time. Excess air within the bag shall be removed before sealing. ACM shall not be dropped from a height of greater than 10 feet. Above 10 feet, dust free inclined chutes may be used. Maximum inclination from horizontal shall be 60-degrees for all chutes.
- f. Exits from the work area shall be maintained, or alternative exits shall be established, in accordance with section 1027 of the New York City Fire Code. Exits shall be checked at the beginning and end of each work shift against blockage or impediments to exiting.
- g. Signs clearly indicating the direction of exits shall be maintained and prominently displayed within the work area.
- h. No smoking signs shall be maintained and prominently displayed within the work place.
- i. At least one fire extinguisher with a minimum rating 2-A:10-B:C shall be required for each work place. In the case of large asbestos projects, at least two such fire extinguishers shall be required.
- j. If the containment area of an asbestos project covers the entire floor of the affected building, or an area greater than 15,000 square feet on any given floor, the installation of a negative air cut off switch or switches shall be required at a single location outside the work place, such as inside a stairwell, or at a secured location in the ground floor lobby when conditions warrant. The required switch or switches shall

ASBESTOS ABATEMENT

be installed by a licensed electrician pursuant to a permit issued by the Department of Buildings. If negative pressure ventilation equipment is used on multiple floors the cut off switch shall be able to turn off the equipment on all floors.

B. Removal of ACM Utilizing Full Containment Procedures shall be as follows:

1. Preparation Procedures:

- a. Ensure that the Third-Party Air Monitor has performed area monitoring and established a background count prior to the preparatory operations for each removal area, as applicable.
- b. Shut down, isolate, and lock out or tag heating, ventilating, and air conditioning (HVAC) systems which serve or which pass through the Work Area. Vents within the Work Area and seams in HVAC components shall be sealed with tape and two layers of fire retardant polyethylene sheeting. Filters in HVAC systems shall be removed and treated as asbestos-asbestos contaminated waste.
- c. Shut down, disconnect, and lock out or tag all electric power to the Work Area so that there is no possibility of its reactivation until after clearance testing of the Work Area.
- d. Provide and install decontamination enclosure systems in accordance with Sections 3.01 and 3.02 of this Section.
- e. Remove ACM that may be disturbed by the erection of partitions using tent procedures and wet removal methods. Removal shall be limited to a one-foot wide strip running the length/height of the partition.
- f. Pre-clean and remove moveable objects from the Work Area. Pre-cleaning shall be accomplished using HEPA-vacuum and wet-cleaning techniques. Store moveable objects at a location determined by the City.
- g. Protect carpeting that will remain in the Work Area.
 - (1) Pre-clean carpeting utilizing wet-cleaning techniques.
 - (2) Install a minimum of two layers of fire retardant 6-mil reinforced polyethylene sheeting over carpeting.
 - (3) Place a rigid flooring material, minimum thickness of 3/8-inch, over polyethylene sheeting.

ASBESTOS ABATEMENT

- h. Pre-clean all fixed objects to remain within the Work Area using HEPA-vacuum and wet-cleaning techniques.
- i. Seal fixed objects with two individual layers, minimum, of 6-mil fire retardant polyethylene sheeting.
- j. Pre-clean entire Work Area utilizing HEPA-vacuum and wet-cleaning techniques. Methods of cleaning that raise dust; such as dry sweeping or use of vacuum equipment not equipped with HEPA-filters, is prohibited.
- k. Install isolation barriers (i.e., sealing of all openings, including but not limited to windows, corridors, doorways, skylights, ducts, grills, diffusers, and other penetrations within the Work Area) using two layers of 6-mil fire retardant polyethylene sheeting and duct-tape.
- l. Construct rigid framework to support Work Area barriers.
 - (1) Framework shall be constructed using 2-inch by 4-inch wooden or metal studs placed 16 inch on center when existing walls and/or ceiling do not exist for all openings greater than 32 square feet. Framework is not required except where one dimension is one foot or less or the opening will be used as an emergency exit.
 - (2) Apply a solid construction material, minimum thickness of 3/8-inch to the Work Area side of the framing. In secure interior areas, not subject to access from the public or building occupants, an additional layer of 6-mil fire retardant polyethylene sheeting may be substituted for the rigid construction material.
 - (3) Caulk all wall, floor, ceiling, and fixture joints to form a leak tight seal.
- m. Seal floor drains, sumps, shower tubs, and other collection devices with two layers of 6-mil fire retardant plastic and fire rated plywood, as necessary, and provide a system to collect all water used by the asbestos abatement contractor. Collected water shall be passed through a water filtration system prior to being discharged into the sanitary sewer.
- n. Remove ceiling mounted objects not previously sealed that will interfere with removal operations. Mist object and surrounding ACM with amended water prior to removal to minimize fiber dispersal. Clean all moveable objects using HEPA-vacuum and wet-cleaning techniques prior to removal from the Work Area.

ASBESTOS ABATEMENT

- o. Fiberglass insulation with intact coverings shall be protected in place during abatement activities. These materials shall be protected with two layers of 6-mil fire retardant polyethylene sheeting as isolation barriers and two additional layers of 6-mil fire retardant polyethylene sheeting serving as primary and secondary surface barriers.
- p. Install and initiate operation of AFDs to provide a negative pressure and a minimum of four air changes per hour within the Work Area relative to surrounding non-Work Areas. Do not shut down AFDs until the Work Area is released to the City following final clearance procedures. The use of HEPA-filtered vacuum to produce a negative air pressure inside the enclosure is prohibited.
- q. Maintain emergency and fire exits from the Work Areas or establish alternative exits satisfactory to the local fire officials. Emergency exits and routes shall be established and clearly marked with florescent paint or other effective designations to permit easy location from anywhere within the Work Area. Cutting tools (e.g., knife, razor) shall be attached to the work area side of the sheeting for use in the event that the barrier must be cut open to allow egress. Emergency exits shall be secured to prevent access from uncontaminated areas and yet permit emergency exiting. Exits shall be checked daily against exterior blockage or impediments to exiting.
- r. Temporary lighting within the Work Area and decontamination system shall be provided as required to achieve minimum illumination levels.
- s. Hand power tools used to drill, cut into, or otherwise disturb ACM shall be manufacturer-equipped with HEPA filtered local exhaust ventilation.
- t. Prior to being plasticized, the Work Areas shall be cleaned using HEPA vacuum equipment and/or wet cleaning methods as appropriate. Methods that raise dust, such as dry sweeping or vacuuming with equipment not equipped with HEPA filters, shall not be used.
- u. Plasticize the area after pre-cleaning, using the following procedures.
 - (1) Cover floors with one layer of 6-mil fire retardant polyethylene sheeting, turning layer a minimum of 6 inches up wall, and seal layer to wall.

ASBESTOS ABATEMENT

- (2) Cover walls with one layer of 6-mil fire retardant polyethylene sheeting, overlapping wall layer a minimum of 6 inches, and seal layer to floor layer.
 - (3) Cover floors with a second layer of 6-mil fire retardant polyethylene sheeting, turning layer a minimum of 12 inches up wall, and seal layer to wall.
 - (4) Cover walls with a second layer of fire retardant 6-mil polyethylene sheeting, overlapping wall layer a minimum of 12 inches, and seal layer to floor layer.
 - (5) In areas where demolition is required to access ACM, a layer of fire retardant 6-mil reinforced polyethylene sheeting shall be placed on the floor of the enclosure.
 - (6) Perform demolition required to access ACM. Debris resulting from demolition activities shall be disposed of as ACM waste as described in this Specification.
 - (7) Repeat preparation of areas accessed by demolition activities as described above.
- v. Suspended ceiling tiles and T-grid components shall remain in place until the preparation of the Work Area below the ceiling tiles are completed and personnel and equipment decontamination enclosures have been constructed.
- w. Scaffolds shall be provided for workers engaged in work that cannot safely be performed from the ground or other solid Work Area surface.
- x. Means of egress shall not be obstructed by hardwall barriers.
- y. Pre-Removal Inspections.
- (1) Prior to removal of any ACM, the asbestos abatement contractor shall notify the Third-Party Air Monitor and request a pre-removal inspection. Posting of warning signs, building of decontamination enclosure systems, and all other preparatory steps have been taken prior to notification of the Third-Party Air Monitor.
 - (2) Asbestos abatement contractor shall correct any deficiencies observed by Third-Party Air Monitor at no additional cost to City.

ASBESTOS ABATEMENT

- (3) Following the Third-Party Air Monitor's approval of the Work Area preparations, removal of ACM may commence.
2. Removal of ACM Within Full Containment:
 - a. Mist material with amended water. Allow sufficient time for the amended water to penetrate the material to be removed.
 - b. Remove the material using hand tools such as scrapers or putty knives. Wire-mesh or wood lathe reinforcing, when present, shall be cut into manageable pieces and disposed of as ACM.
 - c. Remove any residual material from the substrate using wet cleaning methods and nylon-bristled hand brushes.
 - d. Place the removal material immediately into a properly labeled fire retardant 6-mil polyethylene bag. All material shall be properly containerized and decontaminated prior to removal from the Work Area.
 - e. Following the completion of removal of insulation, all visible residue shall be removed from the substrate.
3. Following Removal of ACM utilizing Full Containment Procedures:
 - a. First Cleaning:
 - (1) Remove any visible accumulation of asbestos material and debris. HEPA-vacuuming and wet cleaning shall be performed on all surfaces inside the Work Area. All sealed drums, plastic bags, and equipment used in the Work Area shall be removed from the Work Area.
 - (2) Upon request of the asbestos abatement contractor, the Third-Party Air Monitor will perform a visual inspection. Evidence of asbestos contamination identified during the inspection will necessitate further cleaning as heretofore specified.
 - (3) Remove first layer of plastic sheathing inside the Work Area. The isolation barriers and decontamination facility shall remain in place and be utilized.
 - b. Second Cleaning:
 - (1) After the first cleaning, the Work Area shall be vacated for twelve hours to allow fibers to settle.

ASBESTOS ABATEMENT

- (2) All objects and surfaces in the Work Area shall be HEPA - vacuumed and wet cleaned for a second cleaning.
- (3) A thin coat of lockdown encapsulant shall be applied to all plastic covered surfaces in the Work Area.
- (4) When the encapsulant is dry, second layer of polyethylene sheeting on the walls, ceiling and floors shall be removed. Do not remove seals from doors, windows, Isolation Barriers or disconnect the negative pressure equipment.

c. Third Cleaning:

- (1) A minimum of four hours after the second cleaning, all the surfaces in the Work Area shall be HEPA-vacuumed and wet cleaned for a third cleaning.
- (2) Upon the request of the asbestos abatement contractor, the Third-Party Air Monitor will do final visual inspection for re-occupancy. Evidence of asbestos contamination identified during the inspection will necessitate further cleaning as heretofore specified.
- (3) When the Work Area passes the Third-Party Air Monitor's visual re-occupancy inspection, air sampling shall not begin until at least one hour after the completion of the third cleaning. The Third-Party Air Monitor shall perform air monitoring using aggressive testing techniques. The Third-Party Air Monitor will approve re-occupancy if the specified fiber count in the Work Area is achieved according to the Third-Party Air Monitor.
- (4) When the Work Area passes the re-occupancy test, all controls and seals established shall be removed.
- (5) The cleaned layer of the surface barriers shall be removed from walls and floors.
- (6) The isolation barriers shall remain in place throughout cleanup. Decontamination enclosure systems shall remain in place and be utilized. A thin coat of lockdown encapsulant shall be applied to all surfaces in the work area which were not the subject of removal or abatement, including the cleaned layer of the surface barriers, but excepting sprinklers, standpipes, and other active elements of the fire suppression system.

ASBESTOS ABATEMENT

d. Final Barrier Removal:

- (1) Upon receipt of acceptable clearance testing results, polyethylene sheeting and Isolation Barriers shall be removed and disposed accordingly as asbestos-containing material.
- (2) The area surrounding the abatement work place shall be cleaned of any visible debris utilizing HEPA vacuum and wet methods.

e. The Third-Party Air Monitor will conduct a final visual observation. Approval must be granted prior to break down of decontamination facility and asbestos abatement contractor demobilization.

4.02 MAINTENANCE OF CONTAINED WORK AREA AND DECONTAMINATION ENCLOSURE SYSTEMS

- A. Ensure that barriers are installed in a manner appropriate to the expected weather conditions during the project and for its duration. Repair damaged barriers and remedy defects immediately upon their discovery. Visually inspect barriers at the beginning and end of each work period.
- B. Visually inspect non-Work Areas and the decontamination enclosure system for water leakage. Check the floor below, ceiling and walls, and view beneath/or around the decontamination enclosure system, for signs of leakage. Perform the visual inspection a minimum of two times for each 8-hour work shift.

PART 5 – ASBESTOS WASTE MANAGEMENT

5.01 ACM WASTE REQUIREMENTS

- A. The asbestos abatement contractor and all sub-asbestos abatement contractors are specifically alerted to the illegal practice of combining asbestos-containing waste (ACW) from one project with the ACW of other projects without using the services of a permitted waste transfer station as defined by 6 NYCRR Part 360 and 364. As part of the shop drawing submittals, the Asbestos abatement contractor must submit for approval the proposed method of transportation and disposal that will be utilized to manage the ACW of this Contract. If a permitted transfer station is to be used, the cost shall be included in the work. The asbestos abatement contractor must submit a waste manifest consistent with whatever approved method is utilized as part of the invoicing and payment procedures.

ASBESTOS ABATEMENT

- B. The asbestos abatement contractor shall maintain compliance with the strictest set of regulations of Title 15, Chapter 1 of RCNY, NYC LL 70/85, NYS DOL ICR 56, USEPA, Asbestos Regulation 40 CFR Section 61.152, 29 CFR 1926.1101, 29 CFR 1910.1200 (F) of OSHA's Hazard Communication Standards, and other applicable standards.

NOTE: Any penalties incurred for failure to comply with any of the above regulations will be the sole responsibility for fines imposed due to negligence of the Asbestos abatement contractor.

- C. When presenting ACW for storage at the generation site, the Asbestos abatement contractor shall:

1. Wet down ACW in a manner sufficient to prevent all visible emissions of dust into the air.
2. Seal material in a leak tight container while wet.
3. Keep ACW separate from any other waste.

- D. When presenting ACW for storage away from the site of generation, the Asbestos abatement contractor shall:

1. Ensure that ACW has been properly packaged as per requirements above.
2. Examine the containers of ACW to ensure that there are no breaks in the containers and that no visible dust is being released into the air.
3. If examination reveals damage to a container of ACW the Asbestos abatement contractor or person accepting the waste shall immediately wet down the ACW and repackage it into a clean leak tight container. The subsequent repackaging shall be the financial responsibility of the Asbestos abatement contractor and occur at no extra cost to the City.
4. Keep ACW separate from any other waste.

- E. When storing ACW – The Asbestos abatement contractor shall:

1. Ensure that the ACW has been sufficiently wetted down in tight containers.
2. Re-wet and repackage any damaged containers.
3. Maintain at storage site an adequate supply of spare leak tight containers.
4. Maintain at storage site an adequate supply of amended water.
5. Keep ACW separate from any other waste.

ASBESTOS ABATEMENT

6. Keep ACW in a secured, enclosed, and locked container.
 7. If the Asbestos abatement contractor has intention of sorting a quantity of ACW greater than or equal to 50 cubic yards, the Asbestos abatement contractor shall:
 - a. Submit a written request and receive written approval from the City.
- F. When presenting for transport, the Asbestos abatement contractor shall:
1. Ensure that ACW has been sufficiently wetted down.
 2. Examine the integrity of the container's airtight seal.
 3. Re-wet and repackage any damaged containers.
 4. Keep ACW separate from all other waste.
 5. Ensure that a person transporting asbestos waste holds a valid permit issued pursuant to law.
 6. Frequency of Waste Removal:
 - a. Properly packaged and labeled asbestos waste shall be removed from the site on a daily basis. Under no circumstance shall asbestos waste be stored on site without written approval from the City. The Waste Hauler and landfill shall be as indicated on the notifications to regulatory agencies.
- G. Waste Load-out Through Equipment Decontamination Enclosure (Full Decontamination Facility): Place asbestos waste in disposal bags. Large items not able to fit into disposal bags shall be wrapped in one layer of 6-mil thick polyethylene sheeting. Clean outer covering of asbestos waste package by wet cleaning and/or HEPA-vacuuming in a designated part of the Work Area. Move wrapped asbestos waste to the equipment washroom, wet clean each bag or object and place it inside a second disposal bag, or a second layer of 6-mil polyethylene sheeting, as the item's physical characteristics demand. Air volume shall be minimized, and the bags or sheeting shall be sealed airtight with tape.
1. The clean containerized items shall be moved to the equipment decontamination enclosure holding area pending load-out to storage or disposal facilities.
 2. Workers who have entered the equipment decontamination enclosure system from the uncontaminated non-Work Area shall perform load-out of containers from the decontamination enclosure holding area. Dress workers moving asbestos waste to storage or disposal facilities in clean overalls of a

ASBESTOS ABATEMENT

color different than from that of coveralls used in the Work Area. Ensure that workers do not enter from uncontaminated areas into the equipment washroom or the Work Area. Ensure that contaminated workers do not exit the Work Area through the equipment decontamination enclosure system.

3. Thoroughly clean the equipment decontamination enclosure system immediately upon completion of the waste load-out activities, and at the completion of each work shift.
 4. Labeled ACM waste containers or bags shall not be used for non-ACM debris or trash. Any materials placed in labeled containers or bags, including those turned "inside-out", shall be handled and disposed of as ACM waste.
- H. All asbestos materials, wastes, shower water, polyethylene, disposable equipment and supplies shall be disposed of as asbestos contaminated waste, in accordance with the EPA regulation (40 CFR, Section 61.150) and those requirements of the New York Department of Environmental Conservation and New York City Department of Sanitation.
- I. All asbestos materials shall be prepared for transportation in accordance with this specification and all applicable Federal, State, County and City Regulations. asbestos abatement contractor shall submit the following documentation:
1. Where applicable, an EPA Generator's identification number which has been obtained from the EPA for all asbestos waste generated from the project.
 2. Applicable State Waste Hauler license and registration numbers.
 3. Federal Hazardous Materials Waste Hauler number.
 4. Designated landfill EPA Permit numbers.
- J. Prior to loading asbestos waste the enclosed cargo areas (dumpster) shall be prepared as follows:
1. Clean via HEPA-vacuum and wet wipe techniques the enclosed cargo areas of all visible debris prior to preparing with polyethylene.
 2. Line the cargo area with two layers of 6-mil polyethylene sheeting to prevent contamination from damaged or leaking containers. Floor sheeting shall be installed first and extend up the walls a minimum of 24-inches. Wall sheeting shall be overlapped and taped securely into place.
- K. Asbestos-containing waste shall be placed on level surfaces in the cargo area of the dumpster and shall be packed tightly to prevent any shifting or tipping of the waste during transportation.

ASBESTOS ABATEMENT

- L. Asbestos-containing waste shall not be thrown into or dropped from the dumpster. All material shall be handled carefully to prevent rupture of the containers.
- M. All personnel engaged in handling and loading of asbestos contaminated waste outside of the Work Area shall wear protective clothing. The disposable clothing shall include head, body and foot protection and color of clothing shall be different from abatement personnel in the Work Area. Minimum respiratory protection shall be half face, dual cartridge, air purifying respirators with HEPA-filters.
- N. Asbestos abatement contractor shall immediately clean debris or residue observed on containers or surfaces outside of the Work Area. Cleaning shall be via HEPA equipped wet/dry vacuums only.
- O. All asbestos-containing waste shall be transported from the abatement site to the landfill by a registered Waste Hauler. When transporting ACW:
 - 1. Ensure that the ACW has been sufficiently wetted down in a leak tight container.
 - 2. Re-wet and repackage any damaged containers.
 - 3. Maintain at storage site an adequate supply of spare leak tight containers.
 - 4. Maintain at storage site an adequate supply of amended water.
 - 5. Keep ACW separate from any other waste.
- P. Keep ACW in a secured, enclosed, and locked container.
- Q. Waste transport documents shall conform to the requirements of the U.S. Department of Transportation, Hazardous Materials Transportation Regulation, 49 CFR Part 173 and EPA 40 CFR 61.150 (d)(1)(2). Shipping documents shall be clearly marked with the required designation "RQ Asbestos". Asbestos abatement contractor shall provide a copy of this document to the City.
- R. A uniform hazardous waste manifest shall be prepared by the asbestos abatement contractor and signed by the asbestos abatement contractor each time the asbestos abatement contractor ships a dumpster load of Asbestos-Containing Waste Material. The uniform hazardous waste manifest shall include the site of waste generation, the names and addresses of the Transporter, the asbestos abatement contractor, and the landfill operator with information on the type and number of asbestos-waste containers, time and date. Asbestos abatement contractor shall provide the Construction Project Manager, Third-Party Air Monitor or authorized designated representative with signed copies of the waste manifest before each departure.

ASBESTOS ABATEMENT

- S. Asbestos abatement contractor or his registered hazardous Waste Hauler shall transport asbestos-containing waste material from the abatement site directly to the specified disposal site. Asbestos abatement contractor or their Waste Hauler shall not accept material from any other site when transporting asbestos-containing waste material from the abatement site. The authorized DDC representative or Construction Project Manager reserves the right to travel with asbestos abatement contractor's Waste Hauler to the waste disposal site. No intermediate storage of waste material (i.e., asbestos abatement contractor's warehouse) shall be permitted.
- T. Final or progress application for payments will not be processed unless all hazardous waste manifests generated to date have been received and reviewed by the Construction Project Manager.
- U. All asbestos materials, wastes, shower water, polyethylene disposable equipment and supplies shall be disposed of as asbestos contaminated waste, in accordance with the EPA regulation (40 CFR, Section 61.150) and those requirements of the New York State Department of Environmental Conservation and the New York Department of Sanitation.
- V. Asbestos abatement contractor shall transport all sealed drums to a landfill disposal site approved by the Department of Environmental Conservation and the EPA. Transportation shall be performed by a New York State registered Waste Hauler, where required. When presenting the ACW for disposal the Asbestos abatement contractor or sub Asbestos abatement contractor shall:
 - 1. Ensure that waste container is properly labeled according to the National Emission Standard for Hazardous Air Pollutants (NESHAP); Asbestos Revision, 40 CFR, Part 61, Subpart M. The labels shall include the name of the waste generator and the location where the waste was generated.
 - 2. Comply with all applicable orders issued pursuant to asbestos disposal.
 - 3. Ensure that ACW has been sufficiently wetted down.
 - 4. Re-wet and repackage any damaged containers.
 - 5. Keep ACW separate from all other wastes.
- W. Asbestos abatement contractor shall notify the waste disposal site, at least 24 hours prior to transportation of asbestos contaminated waste to be delivered. Asbestos abatement contractor shall determine if a larger notification period is required.
- X. At the site asbestos abatement contractors or Waste Hauler trucks shall approach the dump location as close as possible for unloading asbestos waste. Containers shall be carefully placed in the ground. Do not throw containers from truck.

ASBESTOS ABATEMENT

- Y. Asbestos abatement contractor or Waste Hauler shall inspect containers as they are unloaded at the disposal site. Material in damaged containers shall be repacked in empty containers, as necessary.
- Z. Asbestos abatement contractor or Waste Hauler shall not remove asbestos-containing waste Material from drums unless required to do so by the disposal site City. Used drums shall be disposed of as asbestos-asbestos contaminated waste.
- AA. All personnel engaged in unloading of the containers at the waste site shall wear protective clothing. The disposable clothing shall include head, body and foot protection. Minimum respiratory protection shall be half face, dual cartridge, air purifying respirators with HEPA-filters. Workers shall remove their protective clothing at the disposal site, place it in labeled disposal bags and leave them with the deposited waste shipment.
- BB. For the compaction operation, the asbestos abatement contractor shall ensure that disposal sites personnel have been provided with personal protective equipment by the disposal operator. If the disposal site City has not provided this protective equipment, the asbestos abatement contractor shall supply protective clothing and respiratory protection for the duration of this operation (PAPR respirators are mandatory).
- CC. If containers are broken or damaged, the asbestos abatement contractor or Waste Hauler shall, using personnel who are properly trained and wearing proper protective equipment, shall repackage the waste in properly labeled containers. Asbestos abatement contractor shall then clean the entire truck and its contents using HEPA-vacuums and wet cleaning techniques until no visible residue is observed.
- DD. Following the removal of all containerized waste, the asbestos abatement contractor shall decontaminate the truck cargo area using HEPA-vacuums and/or wet cleaning techniques until no residue is observed. All 6-mil polyethylene sheeting shall be removed and discarded as asbestos-containing waste material along with contaminated cleaning material and protective clothing, in containers at the disposal site.
- EE. The transporter(s) of all asbestos waste shall not back-haul any items on his return from landfill/disposal site.
- FF. All asbestos waste shall be disposed of in an approved Asbestos Landfill site only.
 - 1. NO PERSON UNDER ANY CIRCUMSTANCES SHALL ABANDON ACW. The same shall be disposed of only by certified persons in approved landfills.

ASBESTOS ABATEMENT

2. A manifest form will be signed by the Landfill documenting receipt and acceptance of the asbestos-containing waste. This manifest will be furnished to the City of New York within thirty calendar days from the project completion date.
3. It is the responsibility of the Asbestos abatement contractor to determine current waste handling, transportation and disposal regulations for the work site and for each waste disposal landfill. The Asbestos abatement contractor must comply fully with these regulations and all appropriate U.S. Department of Transportation, EPA and other Federal, State and Local entities' regulations and all other current legal requirements.
4. The asbestos abatement contractor shall obtain an agreement from the transporter (s) that the practice of "Back-Hauling" will not be engaged in, with respect to any and all waste loads taken from this site during the work.
5. The asbestos abatement contractor will document actual disposal of the waste at the designated landfill by having completed a Disposal Certificate and will provide a copy of the same to the Department of Design and Construction.

PART 6 – ACCEPTANCE

6.01 ACCEPTANCE

Upon satisfactory completion of all decontamination procedures, a certificate will be issued by the Construction Project Manager with copies to all parties.

- A. A letter of Compliance stating that all the work on the project was performed in accordance with the Specifications and all applicable Federal, State and Local regulations.
- B. All warranties as stated in the Specifications.

END OF SECTION 028213

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SECTION 055000 - METAL FABRICATIONS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Steel framing and supports for countertops.
 - 2. Steel framing and supports for applications where framing and supports are not specified in other Sections.

1.3 ACTION SUBMITTALS

- A. Product Data: For the following:
 - 1. See DDC General Conditions for submittal procedures.
 - 2. Paint products.
- B. Shop Drawings: Show fabrication and installation details for metal fabrications.
 - 1. Include plans, elevations, sections, and details of metal fabrications and their connections. Show anchorage and accessory items.
- C. Engineering Submittal: For installed products indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

1.4 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For qualified professional engineer.
- B. Mill Certificates: Signed by manufacturers of stainless-steel certifying that products furnished comply with requirements.
- C. Welding certificates.

- D. Paint Compatibility Certificates: From manufacturers of topcoats applied over shop primers certifying that shop primers are compatible with topcoats.

1.5 QUALITY ASSURANCE

- A. Welding Qualifications: Qualify procedures and personnel according to AWS D1.1/D1.1M, "Structural Welding Code - Steel."
- B. Welding Qualifications: Qualify procedures and personnel according to the following:
 - 1. AWS D1.1/D1.1M, "Structural Welding Code - Steel."
 - 2. AWS D1.2/D1.2M, "Structural Welding Code - Aluminum."
 - 3. AWS D1.6, "Structural Welding Code - Stainless Steel."

1.6 PROJECT CONDITIONS

- A. Field Measurements: Verify actual locations of walls and other construction contiguous with metal fabrications by field measurements before fabrication.

1.7 COORDINATION

- A. Coordinate selection of shop primers with topcoats to be applied over them. Comply with paint and coating manufacturers' written recommendations to ensure that shop primers and topcoats are compatible with one another.
- B. Coordinate installation of anchorages. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.

PART 2 - PRODUCTS

2.1 METALS, GENERAL

- A. Metal Surfaces, General: Provide materials with smooth, flat surfaces unless otherwise indicated. For metal fabrications exposed to view in the completed Work, provide materials without seam marks, roller marks, rolled trade names, or blemishes.

2.2 FERROUS METALS

- A. Steel Plates, Shapes, and Bars: ASTM A 36/A 36M.
- B. Steel Tubing: ASTM A 500, cold-formed steel tubing.

- C. Steel Pipe: ASTM A 53/A 53M, standard weight (Schedule 40) unless otherwise indicated.

2.3 FASTENERS

- A. Steel Bolts and Nuts: Regular hexagon-head bolts, ASTM A 307, Grade A with hex nuts, ASTM A 563 and, where indicated, flat washers.
- B. Anchor Bolts: ASTM F 1554, Grade 36, of dimensions indicated; with nuts, ASTM A 563; and, where indicated, flat washers.
 - 1. Hot-dip galvanize or provide mechanically deposited, zinc coating where item being fastened is indicated to be galvanized.
- C. Machine Screws: ASME B18.6.3.
- D. Lag Screws: ASME B18.2.
- E. Wood Screws: Flat head, ASME B18.6.1.
- F. Plain Washers: Round, ASME B18.22.1.
- G. Lock Washers: Helical, spring type, ASME B18.21.1 .
- H. Anchors, General: Anchors capable of sustaining, without failure, a load equal to six times the load imposed when installed in unit masonry and four times the load imposed when installed in concrete, as determined by testing according to ASTM E 488, conducted by a qualified independent testing agency.

2.4 MISCELLANEOUS MATERIALS

- A. Welding Rods and Bare Electrodes: Select according to AWS specifications for metal alloy welded.
- B. Low-Emitting Materials: Paints and coatings shall comply with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."
- C. Universal Shop Primer: Fast-curing, lead- and chromate-free, universal modified-alkyd primer complying with MPI#79 and compatible with topcoat.
 - 1. Use primer containing pigments that make it easily distinguishable from zinc-rich primer.
- D. Galvanizing Repair Paint: High-zinc-dust-content paint complying with SSPC-Paint 20 and compatible with paints specified to be used over it.

- E. Bituminous Paint: Cold-applied asphalt emulsion complying with ASTM D 1187.
- F. Nonshrink, Metallic Grout: Factory-packaged, ferrous-aggregate grout complying with ASTM C 1107, specifically recommended by manufacturer for heavy-duty loading applications.
- G. Nonshrink, Nonmetallic Grout: Factory-packaged, nonstaining, noncorrosive, nongaseous grout complying with ASTM C 1107. Provide grout specifically recommended by manufacturer for interior and exterior applications.

2.5 FABRICATION, GENERAL

- A. Shop Assembly: Preassemble items in the shop to greatest extent possible. Disassemble units only as necessary for shipping and handling limitations. Use connections that maintain structural value of joined pieces. Clearly mark units for reassembly and coordinated installation.
- B. Cut, drill, and punch metals cleanly and accurately. Remove burrs and ease edges to a radius of approximately 1/32 inch (1 mm) unless otherwise indicated. Remove sharp or rough areas on exposed surfaces.
- C. Form bent-metal corners to smallest radius possible without causing grain separation or otherwise impairing work.
- D. Form exposed work with accurate angles and surfaces and straight edges.
- E. Weld corners and seams continuously to comply with the following:
 - 1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
 - 2. Obtain fusion without undercut or overlap.
 - 3. Remove welding flux immediately.
 - 4. At exposed connections, finish exposed welds and surfaces smooth and blended so no roughness shows after finishing and contour of welded surface matches that of adjacent surface.
- F. Form exposed connections with hairline joints, flush and smooth, using concealed fasteners or welds where possible. Where exposed fasteners are required, use Phillips flat-head (countersunk) fasteners unless otherwise indicated. Locate joints where least conspicuous.
- G. Fabricate seams and other connections that will be exposed to weather in a manner to exclude water. Provide weep holes where water may accumulate.
- H. Cut, reinforce, drill, and tap metal fabrications as indicated to receive finish hardware, screws, and similar items.

- I. Provide for anchorage of type indicated; coordinate with supporting structure. Space anchoring devices to secure metal fabrications rigidly in place and to support indicated loads.
 1. Where units are indicated to be cast into concrete or built into masonry, equip with integrally welded steel strap anchors, 1/8 by 1-1/2 inches (3.2 by 38 mm), with a minimum 6-inch (150-mm) embedment and 2-inch (50-mm) hook, not less than 8 inches (200 mm) from ends and corners of units and 24 inches (600 mm) o.c., unless otherwise indicated.

2.6 MISCELLANEOUS FRAMING AND SUPPORTS

- A. General: Provide steel framing and supports not specified in other Sections as needed to complete the Work.
- B. Fabricate units from steel shapes, plates, and bars of welded construction unless otherwise indicated. Fabricate to sizes, shapes, and profiles indicated and as necessary to receive adjacent construction.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Cutting, Fitting, and Placement: Perform cutting, drilling, and fitting required for installing metal fabrications. Set metal fabrications accurately in location, alignment, and elevation; with edges and surfaces level, plumb, true, and free of rack; and measured from established lines and levels.
- B. Fit exposed connections accurately together to form hairline joints. Weld connections that are not to be left as exposed joints but cannot be shop welded because of shipping size limitations. Do not weld, cut, or abrade surfaces of exterior units that have been hot-dip galvanized after fabrication and are for bolted or screwed field connections.
- C. Field Welding: Comply with the following requirements:
 1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
 2. Obtain fusion without undercut or overlap.
 3. Remove welding flux immediately.
 4. At exposed connections, finish exposed welds and surfaces smooth and blended so no roughness shows after finishing and contour of welded surface matches that of adjacent surface.
- D. Fastening to In-Place Construction: Provide anchorage devices and fasteners where metal fabrications are required to be fastened to in-place construction. Provide threaded

fasteners for use with concrete and masonry inserts, toggle bolts, through bolts, lag screws, wood screws, and other connectors.

- E. Provide temporary bracing or anchors in formwork for items that are to be built into concrete, masonry, or similar construction.

3.2 INSTALLING MISCELLANEOUS FRAMING AND SUPPORTS

- A. General: Install framing and supports to comply with requirements of items being supported, including manufacturers' written instructions and requirements indicated on Shop Drawings.
- B. Anchor supports for operable partitions securely to and rigidly brace from building structure.

END OF SECTION 055000

SECTION 061000 - ROUGH CARPENTRY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:

1. Framing with dimension lumber.
2. Framing with timber.
3. Framing with engineered wood products.
4. Wood blocking and nailers.
5. Wood furring.
6. Plywood backing panels.

- B. Related Requirements:

1. Section 061600 "Sheathing."

1.3 DEFINITIONS

- A. Exposed Framing: Framing not concealed by other construction.
- B. Dimension Lumber: Lumber of 2 inches nominal (38 mm actual) or greater but less than 6 inches nominal (114 mm actual) in least dimension.
- C. Timber: Lumber of 6 inches nominal (114 mm actual) or greater in least dimension.
- D. Lumber grading agencies, and the abbreviations used to reference them, include the following:
 1. NeLMA: Northeastern Lumber Manufacturers' Association.
 2. NLGA: National Lumber Grades Authority.
 3. RIS: Redwood Inspection Service.
 4. SPIB: The Southern Pine Inspection Bureau.
 5. WCLIB: West Coast Lumber Inspection Bureau.
 6. WWPA: Western Wood Products Association.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of process and factory-fabricated product. Indicate component materials and dimensions and include construction and application details.
1. Include data for wood-preservative treatment from chemical treatment manufacturer and certification by treating plant that treated materials comply with requirements. Indicate type of preservative used and net amount of preservative retained.
 2. Include data for fire-retardant treatment from chemical treatment manufacturer and certification by treating plant that treated materials comply with requirements. Include physical properties of treated materials based on testing by a qualified independent testing agency.
 3. For fire-retardant treatments, include physical properties of treated lumber both before and after exposure to elevated temperatures, based on testing by a qualified independent testing agency according to ASTM D 5664.
 4. For products receiving a waterborne treatment, include statement that moisture content of treated materials was reduced to levels specified before shipment to Project site.
 5. Include copies of warranties from chemical treatment manufacturers for each type of treatment.

1.5 INFORMATIONAL SUBMITTALS

- A. Material Certificates: For dimension lumber specified to comply with minimum allowable unit stresses. Indicate species and grade selected for each use and design values approved by the ALSC Board of Review.

1.6 QUALITY ASSURANCE

- A. Testing Agency Qualifications: For testing agency providing classification marking for fire-retardant treated material, an inspection agency acceptable to authorities having jurisdiction that periodically performs inspections to verify that the material bearing the classification marking is representative of the material tested.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Stack lumber flat with spacers beneath and between each bundle to provide air circulation. Protect lumber from weather by covering with waterproof sheeting, securely anchored. Provide for air circulation around stacks and under coverings.

PART 2 - PRODUCTS

2.1 WOOD PRODUCTS, GENERAL

- A. Lumber: DOC PS 20 and applicable rules of grading agencies indicated. If no grading agency is indicated, provide lumber that complies with the applicable rules of any rules-writing agency certified by the ALSC Board of Review. Provide lumber graded by an agency certified by the ALSC Board of Review to inspect and grade lumber under the rules indicated.
 - 1. Factory mark each piece of lumber with grade stamp of grading agency.
 - 2. For exposed lumber indicated to receive a stained or natural finish, mark grade stamp on end or back of each piece.
 - 3. Where nominal sizes are indicated, provide actual sizes required by DOC PS 20 for moisture content specified. Where actual sizes are indicated, they are minimum dressed sizes for dry lumber.
 - 4. Provide dressed lumber, S4S, unless otherwise indicated.
- B. Maximum Moisture Content of Lumber: 19 percent
- C. Engineered Wood Products: Provide engineered wood products acceptable to authorities having jurisdiction and for which current model code research or evaluation reports exist that show compliance with building code in effect for Project.
 - 1. Allowable Design Stresses: Provide engineered wood products with allowable design stresses, as published by manufacturer, that meet or exceed those indicated. Manufacturer's published values shall be determined from empirical data or by rational engineering analysis and demonstrated by comprehensive testing performed by a qualified independent testing agency.

2.2 FIRE-RETARDANT-TREATED MATERIALS

- A. General: Where fire-retardant-treated materials are indicated, use materials complying with requirements in this article, that are acceptable to authorities having jurisdiction, and with fire-test-response characteristics specified as determined by testing identical products per test method indicated by a qualified testing agency.
- B. Fire-Retardant-Treated Lumber and Plywood by Pressure Process: Products with a flame spread index of 25 or less when tested according to ASTM E 84, and with no evidence of significant progressive combustion when the test is extended an additional 20 minutes, and with the flame front not extending more than 10.5 feet (3.2 m) beyond the centerline of the burners at any time during the test.
 - 1. Use treatment that does not promote corrosion of metal fasteners.
 - 2. Exterior Type: Treated materials shall comply with requirements specified above for fire-retardant-treated lumber and plywood by pressure process after being

subjected to accelerated weathering according to ASTM D 2898. Use for exterior locations and where indicated.

3. Interior Type A: Treated materials shall have a moisture content of 28 percent or less when tested according to ASTM D 3201 at 92 percent relative humidity. Use where exterior type is not indicated.
 4. Design Value Adjustment Factors: Treated lumber shall be tested according ASTM D 5664 and design value adjustment factors shall be calculated according to ASTM D 6841.
- C. Kiln-dry lumber after treatment to a maximum moisture content of 19 percent.
- D. Identify fire-retardant-treated wood with appropriate classification marking of qualified testing agency.
1. For exposed lumber indicated to receive a stained or natural finish, mark end or back of each piece.
- E. For exposed items indicated to receive a stained or natural finish, use chemical formulations that do not bleed through, contain colorants, or otherwise adversely affect finishes.
- F. Application: Treat all rough carpentry unless otherwise indicated.

2.3 DIMENSION LUMBER FRAMING

- A. Joists, Rafters, and Other Framing Not Listed Above: Any species and grade with a modulus of elasticity of at least **1,500,000 psi (10 350 MPa)** thickness and 12-inch nominal (286-mm actual) width for single-member use.
1. Sizes: Nominal sizes as indicated on drawings.

2.4 TIMBER FRAMING

- A. Provide timber framing complying with the following requirements, according to grading rules of grading agency indicated:
1. Species and Grade: Douglas fir-larch, Douglas fir-larch (north), or Douglas fir-south; Select Structural No. 1 grade; NLGA, WCLIB, or WWPA.
 2. Maximum Moisture Content: 20 percent.
 3. Additional Restriction: Free of heart centers.

2.5 PLYWOOD BACKING PANELS

- A. Equipment Backing Panels: DOC PS 1, fire-retardant treated, in thickness indicated or, if not indicated, not less than **3/4-inch (19-mm)** nominal thickness.

1. Plywood shall comply with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."

2.6 FASTENERS

- A. General: Provide fasteners of size and type indicated that comply with requirements specified in this article for material and manufacture.
- B. Nails, Brads, and Staples: ASTM F 1667.
- C. Power-Driven Fasteners: NES NER-272.
- D. Wood Screws: ASME B18.6.1.
- E. Lag Bolts: ASME B18.2.1.
- F. Bolts: Steel bolts complying with ASTM A 307, Grade hex nuts and, where indicated, flat washers.
- G. Expansion Anchors: Anchor bolt and sleeve assembly of material indicated below with capability to sustain, without failure, a load equal to six times the load imposed when installed in unit masonry assemblies and equal to four times the load imposed when installed in concrete as determined by testing per ASTM E 488 conducted by a qualified independent testing and inspecting agency.
 1. Material: Carbon-steel components, zinc plated to comply with ASTM B 633, Class Fe/Zn 5.
 2. Material: Stainless steel with bolts and nuts to comply with ASTM F 593 and ASTM F 594, Alloy Group 1.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Set rough carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Fit rough carpentry to other construction; scribe and cope as needed for accurate fit. Locate nailers, blocking, and similar supports to comply with requirements for attaching other construction.
- B. Framing Standard: Comply with AF&PA's WCD 1, "Details for Conventional Wood Frame Construction," unless otherwise indicated.
- C. Framing with Engineered Wood Products: Install engineered wood products to comply with manufacturer's written instructions.

- D. Install fire-retardant treated plywood backing panels with classification marking of testing agency exposed to view.
- E. Shear Wall Panels: Install shear wall panels to comply with manufacturer's written instructions.
- F. Metal Framing Anchors: Install metal framing anchors to comply with manufacturer's written instructions. Install fasteners through each fastener hole.
- G. Install sill sealer gasket to form continuous seal between sill plates and foundation walls.
- H. Do not splice structural members between supports unless otherwise indicated.
- I. Provide blocking and framing as indicated and as required to support facing materials, fixtures, specialty items, and trim.
 - 1. Provide metal clips for fastening gypsum board or lath at corners and intersections where framing or blocking does not provide a surface for fastening edges of panels. Space clips not more than 16 inches (406 mm) o.c.
- J. Sort and select lumber so that natural characteristics will not interfere with installation or with fastening other materials to lumber. Do not use materials with defects that interfere with function of member or pieces that are too small to use with minimum number of joints or optimum joint arrangement.
- K. Comply with AWPAC M4 for applying field treatment to cut surfaces of preservative-treated lumber.
 - 1. Use inorganic boron for items that are continuously protected from liquid water.
 - 2. Use copper naphthenate for items not continuously protected from liquid water.
- L. Securely attach rough carpentry work to substrate by anchoring and fastening as indicated, complying with the following:
 - 1. NES NER-272 for power-driven fasteners.
 - 2. Table 2304.9.1, "Fastening Schedule," in ICC's International Building Code.
 - 3. Table R602.3(1), "Fastener Schedule for Structural Members," and Table R602.3(2), "Alternate Attachments," in ICC's International Residential Code for One- and Two-Family Dwellings.
- M. Use steel common nails unless otherwise indicated. Select fasteners of size that will not fully penetrate members where opposite side will be exposed to view or will receive finish materials. Make tight connections between members. Install fasteners without splitting wood. Drive nails snug but do not countersink nail heads unless otherwise indicated.

3.2 PROTECTION

- A. Protect wood that has been treated with inorganic boron (SBX) from weather. If, despite protection, inorganic boron-treated wood becomes wet, apply EPA-registered borate treatment. Apply borate solution by spraying to comply with EPA-registered label.

END OF SECTION 061000

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SECTION 061600 - SHEATHING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Wall sheathing.
2. Roof sheathing.
3. Composite nail base insulated roof sheathing.
4. Subflooring.
5. Underlayment.
6. Sheathing joint and penetration treatment.

B. Related Requirements:

1. Section 061000 "Rough Carpentry" for plywood backing panels.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of process and factory-fabricated product. Indicate component materials and dimensions and include construction and application details.

1. Include data for wood-preservative treatment from chemical treatment manufacturer and certification by treating plant that treated plywood complies with requirements. Indicate type of preservative used and net amount of preservative retained.
2. Include data for fire-retardant treatment from chemical treatment manufacturer and certification by treating plant that treated plywood complies with requirements. Include physical properties of treated materials.
3. For fire-retardant treatments, include physical properties of treated plywood both before and after exposure to elevated temperatures, based on testing by a qualified independent testing agency according to ASTM D 5516.
4. For products receiving a waterborne treatment, include statement that moisture content of treated materials was reduced to levels specified before shipment to Project site.
5. Include copies of warranties from chemical treatment manufacturers for each type of treatment.

1.4 INFORMATIONAL SUBMITTALS

A. Evaluation Reports: For following products, from ICC-ES:

1. Preservative-treated plywood.
2. Fire-retardant-treated plywood.
3. Foam-plastic sheathing.

1.5 QUALITY ASSURANCE

- A. Testing Agency Qualifications: For testing agency providing classification marking for fire-retardant-treated material, an inspection agency acceptable to authorities having jurisdiction that periodically performs inspections to verify that the material bearing the classification marking is representative of the material tested.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Stack panels flat with spacers beneath and between each bundle to provide air circulation. Protect sheathing from weather by covering with waterproof sheeting, securely anchored. Provide for air circulation around stacks and under coverings.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Fire-Test-Response Characteristics: For assemblies with fire-resistance ratings, provide materials and construction identical to those of assemblies tested for fire resistance per ASTM E 119 by a testing and inspecting agency acceptable to authorities having jurisdiction.

2.2 WOOD PANEL PRODUCTS

- A. Emissions: Products shall meet the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."
- B. Plywood: DOC PS 1
- C. Thickness: As needed to comply with requirements specified, but not less than thickness indicated.
- D. Factory mark panels to indicate compliance with applicable standard.

2.3 FIRE-RETARDANT-TREATED PLYWOOD

- A. General: Where fire-retardant-treated materials are indicated, use materials complying with requirements in this article that are acceptable to authorities having jurisdiction and with fire-test-response characteristics specified as determined by testing identical products per test method indicated by a qualified testing agency.
- B. Fire-Retardant-Treated Plywood by Pressure Process: Products with a flame-spread index of 25 or less when tested according to ASTM E 84, and with no evidence of significant progressive combustion when the test is extended an additional 20 minutes, and with the flame front not extending more than 10.5 feet (3.2 m) beyond the centerline of the burners at any time during the test.
 - 1. Use treatment that does not promote corrosion of metal fasteners.
 - 2. Exterior Type: Treated materials shall comply with requirements specified above for fire-retardant-treated plywood by pressure process after being subjected to accelerated weathering according to ASTM D 2898. Use for exterior locations and where indicated.
 - 3. Interior Type A: Treated materials shall have a moisture content of 28 percent or less when tested according to ASTM D 3201 at 92 percent relative humidity. Use where exterior type is not indicated.
 - 4. Design Value Adjustment Factors: Treated lumber plywood shall be tested according ASTM D 5516 and design value adjustment factors shall be calculated according to ASTM D 6305. Span ratings after treatment shall be not less than span ratings specified. For roof sheathing and where high-temperature fire-retardant treatment is indicated, span ratings for temperatures up to 170 deg F (76 deg C) shall be not less than span ratings specified.
- C. Kiln-dry material after treatment to a maximum moisture content of 15 percent. Do not use material that is warped or does not comply with requirements for untreated material.
- D. Identify fire-retardant-treated plywood with appropriate classification marking of qualified testing agency.
 - 1. Application: Treat all plywood unless otherwise indicated.
- E. Cementitious Backer Units: ASTM C 1325, Type A.
 - 1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - a. C-Cure; C-Cure Board 990.
 - b. Custom Building Products; Wonderboard.
 - c. FinPan, Inc.; Util-A-Crete Concrete Backer Board.
 - d. USG Corporation; DUROCK Cement Board.
 - 2. Thickness: As indicated.

2.4 SUBFLOORING AND UNDERLAYMENT

- A. Plywood Underlayment for Resilient Flooring: DOC PS 1, with fully sanded face.
- B. Plywood Underlayment for Ceramic Tile: DOC PS.

2.5 FASTENERS

- A. Nails, Brads, and Staples: ASTM F 1667.
- B. Power-Driven Fasteners: NES NER-272.
- C. Wood Screws: ASME B18.6.1.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Do not use materials with defects that impair quality of sheathing or pieces that are too small to use with minimum number of joints or optimum joint arrangement. Arrange joints so that pieces do not span between fewer than three support members.
- B. Cut panels at penetrations, edges, and other obstructions of work; fit tightly against abutting construction unless otherwise indicated.
- C. Securely attach to substrate by fastening as indicated, complying with the following:
 - 1. NES NER-272 for power-driven fasteners.
 - 2. Table 2304.9.1, "Fastening Schedule," in NYC Building Code 2008."
- D. Use common wire nails unless otherwise indicated. Select fasteners of size that will not fully penetrate members where opposite side will be exposed to view or will receive finish materials. Make tight connections. Install fasteners without splitting wood.
- E. Do not bridge building expansion joints; cut and space edges of panels to match spacing of structural support elements.
- F. Coordinate sheathing installation with installation of materials installed over sheathing so sheathing is not exposed to precipitation or left exposed at end of the workday when rain is forecast.

3.2 WOOD STRUCTURAL PANEL INSTALLATION

- A. Fastening Methods: Fasten panels as indicated below:

1. Subflooring:
 - a. Nail to wood framing.

3.3 CEMENTITIOUS BACKER UNIT INSTALLATION

- A. Install panels and treat joints according to ANSI A108.11 and manufacturer's written instructions for type of application indicated.

END OF SECTION 061600

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SECTION 072100 - THERMAL INSULATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:

- 1. Glass-fiber blanket insulation.
- 2. Vapor retarders.

- B. Related Sections:

- 1. Section 061600 "Sheathing" for plywood underlayment.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, for each product.

1.4 QUALITY ASSURANCE

- A. Surface-Burning Characteristics: As determined by testing identical products according to ASTM E 84 by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Protect insulation materials from physical damage and from deterioration due to moisture, soiling, and other sources. Store inside and in a dry location. Comply with manufacturer's written instructions for handling, storing, and protecting during installation.

B. Protect foam-plastic board insulation as follows:

1. Do not expose to sunlight except to necessary extent for period of installation and concealment.
2. Protect against ignition at all times. Do not deliver foam-plastic board materials to Project site before installation time.
3. Quickly complete installation and concealment of foam-plastic board insulation in each area of construction.

PART 2 - PRODUCTS

2.1 GLASS-FIBER BLANKET INSULATION

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

1. CertainTeed Corporation.
2. Guardian Building Products, Inc.
3. Johns Manville.
4. Knauf Insulation.
5. Owens Corning.

B. Foil-Faced, Glass-Fiber Blanket Insulation: ASTM C 665, Type III (reflective faced), Class B (faced surface with a flame-propagation resistance of 0.12 W/sq. cm); Category 1 (membrane is a vapor barrier), faced with foil scrim, foil-scrim kraft, or foil-scrim polyethylene.

2.2 VAPOR RETARDERS

- A. Polyethylene Vapor Retarders: ASTM D 4397, 10 mils (0.25 mm) thick, with maximum permeance rating of 0.13 perm (7.5 ng/Pa x s x sq. m).
- B. Vapor-Retarder Tape: Pressure-sensitive tape of type recommended by vapor-retarder manufacturer for sealing joints and penetrations in vapor retarder.
- C. Vapor-Retarder Fasteners: Pancake-head, self-tapping steel drill screws; with fender washers.
- D. Adhesive for Vapor Retarders: Product recommended by vapor-retarder manufacturer and has demonstrated capability to bond vapor retarders securely to substrates indicated.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Clean substrates of substances that are harmful to insulation or vapor retarders, including removing projections capable of puncturing vapor retarders, or that interfere with insulation attachment.

3.2 INSTALLATION, GENERAL

- A. Comply with insulation manufacturer's written instructions applicable to products and applications indicated.
- B. Install insulation that is undamaged, dry, and unsoiled and that has not been left exposed to ice, rain, or snow at any time.
- C. Extend insulation to envelop entire area to be insulated. Cut and fit tightly around obstructions and fill voids with insulation. Remove projections that interfere with placement.
- D. Provide sizes to fit applications indicated and selected from manufacturer's standard thicknesses, widths, and lengths. Apply single layer of insulation units to produce thickness indicated unless multiple layers are otherwise shown or required to make up total thickness.

3.3 INSTALLATION OF BELOW-GRADE INSULATION

- A. On vertical surfaces, set insulation units using manufacturer's recommended adhesive according to manufacturer's written instructions.
- B. On horizontal surfaces, loosely lay insulation units according to manufacturer's written instructions. Stagger end joints and tightly abut insulation units.

END OF SECTION 072100

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SECTION 081213 - HOLLOW METAL FRAMES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes hollow-metal frames.
- B. Related Requirements:
 - 1. Section 081416 "Flush Wood Doors" for wood doors installed in hollow-metal frames.

1.3 DEFINITIONS

- A. **Minimum Thickness:** Minimum thickness of base metal without coatings according to NAAMM-HMMA 803 or SDI A250.8.

1.4 COORDINATION

- A. Coordinate anchorage installation for hollow-metal frames. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors. Deliver such items to Project site in time for installation.

1.5 ACTION SUBMITTALS

- A. **Product Data:** For each type of product.
 - 1. Include construction details, material descriptions, hardware locations, reinforcement type and locations, anchorage and fastening methods, and finishes; and one copy of referenced grade standard.
- B. **Shop Drawings:** Include the following:
 - 1. Frame details for each frame type, including dimensioned profiles and metal thicknesses.

2. Locations of reinforcement and preparations for hardware.
 3. Details of each different wall opening condition.
 4. Details of anchorages, joints, field splices, and connections.
 5. Details of moldings, removable stops, and glazing.
 6. Details of conduit and preparations for power, signal, and control systems.
- C. Samples for Initial Selection: For units with factory-applied color finishes.
- D. Samples for Verification: Prepare Samples to demonstrate compliance with requirements for quality of materials and construction. Show profile, corner joint, floor and wall anchors, and silencers. Include separate section showing fixed hollow-metal panels and glazing if applicable.
- E. Schedule: Provide a schedule of hollow-metal work prepared by or under the supervision of supplier, using same reference numbers for details and openings as those on Drawings. Coordinate with final Door Hardware Schedule.

1.6 INFORMATIONAL SUBMITTALS

- A. Product Test Reports: For each type of frame assembly, for tests performed by a qualified testing agency.
- B. Oversize Construction Certification: For assemblies required to be fire rated and exceeding limitations of labeled assemblies.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Deliver hollow-metal work palletized, packaged, or crated to provide protection during transit and Project-site storage. Do not use nonvented plastic.
1. Provide additional protection to prevent damage to factory-finished units.
- B. Deliver welded frames with two removable spreader bars across bottom of frames, tack welded to jambs and mullions.
- C. Store hollow-metal work vertically under cover at Project site with head up. Place on minimum 4-inch- (102-mm-) high wood blocking. Provide minimum 1/4-inch (6-mm) space between each unit to permit air circulation.

1.8 WARRANTY

- A. Special Manufacturer's Warranty: Provide manufacturer's standard form in which manufacturer agrees to repair or replace products that fail in materials or workmanship during the following period after substantial completion:

1. Warranty Period: Life of Installation

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

1. Amweld International, LLC.
2. Apex Industries, Inc.
3. Ceco Door Products; an Assa Abloy Group company.
4. Commercial Door & Hardware Inc.
5. Concept Frames, Inc.
6. Curries Company; an Assa Abloy Group company.
7. Custom Metal Products.
8. Daybar.
9. Deansteel.
10. de La Fontaine Industries.
11. DKS Steel Door & Frame Sys. Inc.
12. Door Components, Inc.
13. Fleming-Baron Door Products.
14. Gensteel Doors Inc.
15. Greensteel Industries, Ltd.
16. HMF Express.
17. Hollow Metal Inc.
18. Hollow Metal Xpress.
19. J/R Metal Frames Manufacturing, Inc.
20. Karpen Steel Custom Doors & Frames.
21. L.I.F. Industries, Inc.
22. LaForce, Inc.
23. Megamet Industries, Inc.
24. Mesker Door Inc.
25. Michbi Doors Inc.
26. MPI Group, LLC (The).
27. National Custom Hollow Metal.
28. North American Door Corp.
29. Philipp Manufacturing Co (The).
30. Pioneer Industries, Inc.
31. Premier Products, Inc.
32. Republic Doors and Frames.
33. Rocky Mountain Metals, Inc.
34. Security Metal Products Corp.
35. Shanahans Manufacturing Ltd.

36. Steelcraft; an Ingersoll-Rand company.
37. Steward Steel; Door Division.
38. Stiles Custom Metal, Inc.
39. Titan Metal Products, Inc.
40. Trillium Steel Doors Limited.
41. West Central Mfg. Inc.

- B. Source Limitations: Obtain hollow-metal work from single source from single manufacturer.

2.2 REGULATORY REQUIREMENTS

- A. Fire-Rated Assemblies: Complying with NFPA 80 and listed and labeled by a qualified testing agency acceptable to authorities having jurisdiction for fire-protection ratings and temperature-rise limits indicated, based on testing at positive pressure according to NFPA 252 or UL 10C.

1. Smoke- and Draft-Control Assemblies: Provide an assembly with gaskets listed and labeled for smoke and draft control by a qualified testing agency acceptable to authorities having jurisdiction, based on testing according to UL 1784 and installed in compliance with NFPA 105.

- B. Fire-Rated, Borrowed-Light Assemblies: Complying with NFPA 80 and listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction for fire-protection ratings indicated, based on testing according to NFPA 257 or UL 9.

2.3 INTERIOR FRAMES

- A. Construct interior frames to comply with the standards indicated for materials, fabrication, hardware locations, hardware reinforcement, tolerances, and clearances, and as specified.

- B. Hollow-Metal Frames: NAAMM-HMMA 860. At locations indicated in the Door Schedule.

1. Physical Performance: Level A according to SDI A250.4.
2. Materials: Uncoated steel sheet, minimum thickness of 0.042 inch (1.0 mm).
3. Construction: Full profile welded.
4. Exposed Finish: Factory Primed for field finish.

2.4 FRAME ANCHORS

- A. Jamb Anchors:

1. Stud-Wall Type: Designed to engage stud, welded to back of frames; not less than 0.042 inch (1.0 mm) thick.
- B. Floor Anchors: Formed from same material as frames, minimum thickness of 0.042 inch (1.0 mm).

2.5 MATERIALS

- A. Cold-Rolled Steel Sheet: ASTM A 1008/A 1008M, Commercial Steel (CS), Type B; suitable for exposed applications.
- B. Hot-Rolled Steel Sheet: ASTM A 1011/A 1011M, Commercial Steel (CS), Type B; free of scale, pitting, or surface defects; pickled and oiled.
- C. Metallic-Coated Steel Sheet: ASTM A 653/A 653M, Commercial Steel (CS), Type B.
- D. Frame Anchors: ASTM A 879/A 879M, Commercial Steel (CS), 04Z (12G) coating designation; mill phosphatized.
 1. For anchors built into exterior walls, steel sheet complying with ASTM A 1008/A 1008M or ASTM A 1011/A 1011M, hot-dip galvanized according to ASTM A 153/A 153M, Class B.
- E. Inserts, Bolts, and Fasteners: Hot-dip galvanized according to ASTM A 153/A 153M.

2.6 FABRICATION

- A. Fabricate hollow-metal work to be rigid and free of defects, warp, or buckle. Accurately form metal to required sizes and profiles, with minimum radius for metal thickness. Where practical, fit and assemble units in manufacturer's plant. To ensure proper assembly at Project site, clearly identify work that cannot be permanently factory assembled before shipment.
- B. Hollow-Metal Frames: Where frames are fabricated in sections due to shipping or handling limitations, provide alignment plates or angles at each joint, fabricated of same thickness metal as frames.
- C. Hardware Preparation: Factory prepare hollow-metal work to receive templated mortised hardware; include cutouts, reinforcement, mortising, drilling, and tapping according to SDI A250.6, the Door Hardware Schedule, and templates.
 1. Reinforce frames to receive nontemplated, mortised, and surface-mounted hardware.

2. Comply with applicable requirements in SDI A250.6 and BHMA A156.115 for preparation of hollow-metal work for hardware.

2.7 STEEL FINISHES

- A. Prime Finish: Clean, pretreat, and apply manufacturer's standard primer.
 1. Shop Primer: Manufacturer's standard, fast-curing, lead- and chromate-free primer complying with SDI A250.10; recommended by primer manufacturer for substrate; compatible with substrate and field-applied coatings despite prolonged exposure.
- B. Factory Finish: Clean, pretreat, and apply manufacturer's standard two-coat, baked-on finish consisting of prime coat and thermosetting topcoat, complying with SDI A250.3.

2.8 ACCESSORIES

- A. Mullions and Transom Bars: Join to adjacent members by welding or rigid mechanical anchors.
- B. Grout Guards: Formed from same material as frames, not less than 0.016 inch (0.4 mm) thick.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
- B. Examine roughing-in for embedded and built-in anchors to verify actual locations before frame installation.
- C. Prepare written report, endorsed by Installer, listing conditions detrimental to performance of the Work.
- D. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Remove welded-in shipping spreaders installed at factory. Restore exposed finish by grinding, filling, and dressing, as required to make repaired area smooth, flush, and invisible on exposed faces.
- B. Drill and tap frames to receive nontemplated, mortised, and surface-mounted hardware.

3.3 INSTALLATION

- A. General: Install hollow-metal work plumb, rigid, properly aligned, and securely fastened in place. Comply with Drawings and manufacturer's written instructions.
- B. Hollow-Metal Frames: Install hollow-metal frames of size and profile indicated. Comply with SDI A250.11 or NAAMM-HMMA 840 as required by standards specified.
 - 1. Set frames accurately in position; plumbed, aligned, and braced securely until permanent anchors are set. After wall construction is complete, remove temporary braces, leaving surfaces smooth and undamaged.
 - a. At fire-rated openings, install frames according to NFPA 80.
 - b. Where frames are fabricated in sections because of shipping or handling limitations, field splice at approved locations by welding face joint continuously; grind, fill, dress, and make splice smooth, flush, and invisible on exposed faces.
 - c. Install frames with removable stops located on secure side of opening.
 - d. Install door silencers in frames before grouting.
 - e. Remove temporary braces necessary for installation only after frames have been properly set and secured.
 - f. Check plumb, square, and twist of frames as walls are constructed. Shim as necessary to comply with installation tolerances.
 - g. Field apply bituminous coating to backs of frames that will be filled with grout containing antifreezing agents.
 - 2. Floor Anchors: Provide floor anchors for each jamb and mullion that extends to floor, and secure with postinstalled expansion anchors.
 - a. Floor anchors may be set with power-actuated fasteners instead of postinstalled expansion anchors if so indicated and approved on Shop Drawings.
 - 3. Metal-Stud Partitions: Solidly pack mineral-fiber insulation inside frames.
 - 4. In-Place Metal or Wood-Stud Partitions: Secure slip-on drywall frames in place according to manufacturer's written instructions.
 - 5. Installation Tolerances: Adjust hollow-metal door frames for squareness, alignment, twist, and plumb to the following tolerances:

- a. Squareness: Plus or minus 1/16 inch (1.6 mm), measured at door rabbet on a line 90 degrees from jamb perpendicular to frame head.
- b. Alignment: Plus or minus 1/16 inch (1.6 mm), measured at jambs on a horizontal line parallel to plane of wall.
- c. Twist: Plus or minus 1/16 inch (1.6 mm), measured at opposite face corners of jambs on parallel lines, and perpendicular to plane of wall.
- d. Plumbness: Plus or minus 1/16 inch (1.6 mm), measured at jambs at floor.

3.4 ADJUSTING AND CLEANING

- A. Final Adjustments: Remove and replace defective work, including hollow-metal work that is warped, bowed, or otherwise unacceptable.
- B. Remove grout and other bonding material from hollow-metal work immediately after installation.
- C. Prime-Coat Touchup: Immediately after erection, sand smooth rusted or damaged areas of prime coat and apply touchup of compatible air-drying, rust-inhibitive primer.
- D. Metallic-Coated Surface Touchup: Clean abraded areas and repair with galvanizing repair paint according to manufacturer's written instructions.
- E. Factory-Finish Touchup: Clean abraded areas and repair with same material used for factory finish according to manufacturer's written instructions.
- F. Touchup Painting: Cleaning and touchup painting of abraded areas of paint are specified in painting Sections.

END OF SECTION 081213

SECTION 081416 - FLUSH WOOD DOORS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:

- 1. Solid-core doors with wood-veneer faces.

- B. Related Sections:

- 1. Section 081213 "Hollow Metal Frames".

1.3 ACTION SUBMITTALS

- A. Product Data: Indicate door core materials and construction; veneer species, type and characteristics.

- B. Shop Drawings: Indicate location, size, and hand of each door; elevation of each kind of door; construction details not covered in Product Data; location and extent of hardware blocking; and other pertinent data.

- 1. Indicate dimensions and locations of mortises and holes for hardware.
 - 2. Indicate dimensions and locations of cutouts.
 - 3. Indicate requirements for veneer matching.
 - 4. Indicate doors to be factory finished and finish requirements.
 - 5. Indicate fire-protection ratings for fire-rated doors.

- C. Samples for Verification:

- 1. Factory finishes applied to actual door face materials, approximately 8 by 10 inches (200 by 250 mm), for each material and finish. For each wood species and transparent finish, provide set of three samples showing typical range of color and grain to be expected in the finished work.
 - 2. Corner sections of doors, approximately 8 by 10 inches (200 by 250 mm), with door faces and edges representing actual materials to be used.

- a. Provide samples for each species of veneer and solid lumber required.

1.4 INFORMATIONAL SUBMITTALS

- A. Warranty: Sample of special warranty.

1.5 QUALITY ASSURANCE

- A. Source Limitations: Obtain flush wood doors and wood veneer from single manufacturer.
- B. Quality Standard: In addition to requirements specified, comply with AWI's "Architectural Woodwork Quality Standards Illustrated."
 - 1. Provide AWI Quality Certification Labels or an AWI letter of licensing for Project indicating that doors comply with requirements of grades specified.
 - 2. Provide WI-Certified Compliance Certificate indicating that doors comply with requirements of grades specified.
 - 3. Provide WI-Certified Compliance Certificate for installation.
- C. Fire-Rated Wood Doors: Doors complying with NFPA 80 that are listed and labeled by a qualified testing agency, for fire-protection ratings indicated, based on testing at positive pressure as close to neutral pressure as possible according to NFPA 252 UBC Standard 7-2 or UL 10B UL 10C.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Comply with requirements of referenced standard and manufacturer's written instructions.
- B. Package doors individually in cardboard cartons and wrap bundles of doors in plastic sheeting.
- C. Mark each door on top and bottom rail with opening number used on Shop Drawings.

1.7 PROJECT CONDITIONS

- A. Environmental Limitations: Do not deliver or install doors until spaces are enclosed and weathertight, wet work in spaces is complete and dry, and HVAC system is operating and maintaining ambient temperature and humidity conditions at occupancy levels during the remainder of the construction period.

1.8 WARRANTY

- A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace doors that fail in materials or workmanship within specified warranty period.
1. Failures include, but are not limited to, the following:
 - a. Warping (bow, cup, or twist) more than 1/4 inch (6.4 mm) in a 42-by-84-inch (1067-by-2134-mm) section.
 - b. Telegraphing of core construction in face veneers exceeding 0.01 inch in a 3-inch (0.25 mm in a 76.2-mm) span.
 2. Warranty shall also include installation and finishing that may be required due to repair or replacement of defective doors.
 3. Warranty Period for Solid-Core Interior Doors: Life of installation.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
1. Algoma Hardwoods, Inc.
 2. Ampco, Inc.
 3. Buell Door Company Inc.
 4. Chappell Door Co.
 5. Eagle Plywood & Door Manufacturing, Inc.
 6. Eggers Industries.
 7. Graham; an Assa A bloy Group company.
 8. Haley Brothers, Inc.
 9. Ideal Architectural Doors & Plywood.
 10. Ipik Door Company.
 11. Lambton Doors.
 12. Marlite.
 13. Marshfield Door Systems, Inc.
 14. Mohawk Flush Doors, Inc.; a Masonite company.
 15. Oshkosh Architectural Door Company.
 16. Poncraft Door Company.
 17. Vancouver Door Company.
 18. VT Industries Inc.

2.2 DOOR CONSTRUCTION, GENERAL

- A. Fabricate doors in accordance with door quality standard specified.

- B. Cores constructed with stiles and rails.
- C. Fit door edge trim to edge of stiles after applying veneer facing.
- D. Factory machine doors for hardware other than surface mounted hardware, in accordance with hardware requirements and dimensions.
- E. Factory fit doors for frame opening dimensions identified on shop drawings, with edge clearances in accordance with specified quality standard.
- F. Provide edge clearances in accordance with AWI Quality Standards Illustrated Section 1700.

2.3 VENEERED-FACED DOORS FOR TRANSPARENT FINISH

- A. Interior Solid-Core Doors:
 - 1. Grade: Premium, with Grade AA faces
 - 2. Species: Select white birch
 - 3. Cut: Plain sliced flat sliced.
 - 4. Match between Veneer Leaves: Slip match.

2.4 FABRICATION

- A. Factory fit doors to suit frame-opening sizes indicated. Comply with clearance requirements of referenced quality standard for fitting unless otherwise indicated.
 - 1. Comply with requirements in NFPA 80 for fire-rated doors.
- B. Factory machine doors for hardware that is not surface applied. Locate hardware to comply with DHI-WDHS-3. Comply with final hardware schedules, door frame Shop Drawings, DHI A115-W series standards, and hardware templates.
 - 1. Coordinate with hardware mortises in metal frames to verify dimensions and alignment before factory machining.
 - 2. Metal Astragals: Factory machine astragals and formed-steel edges for hardware for pairs of fire-rated doors.
- C. Transom and Side Panels: Fabricate matching panels with same construction, exposed surfaces, and finish as specified for associated doors. Finish bottom edges of transoms and top edges of rabbeted doors same as door stiles.
 - 1. Fabricate door and transom panels with full-width, solid-lumber, rabbeted, meeting rails. Provide factory-installed spring bolts for concealed attachment into jambs of metal door frames.
- D. Openings: Cut and trim openings through doors in factory.

1. Light Openings: Trim openings with moldings of material and profile indicated.
2. Louvers: Factory install louvers in prepared openings.

2.5 FACTORY FINISHING

- A. General: Comply with referenced quality standard for factory finishing. Complete fabrication, including fitting doors for openings and machining for hardware that is not surface applied, before finishing.
 1. Finish faces, all four edges, edges of cutouts, and mortises. Stains and fillers may be omitted on top and bottom edges, edges of cutouts, and mortises.
- B. Finish doors at factory.
- C. Finish doors at factory that are indicated to receive transparent finish. Field finish doors indicated to receive opaque finish.
- D. Finish doors at factory where indicated in schedules or on Drawings as factory finished.
- E. Use only paints and coatings that comply with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."
- F. Transparent Finish:
 1. Grade: Custom.
 2. Sheen: Satin

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine doors and installed door frames before hanging doors.
 1. Verify that frames comply with indicated requirements for type, size, location, and swing characteristics and have been installed with level heads and plumb jambs.
 2. Reject doors with defects.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. Hardware: For installation, see Section 087100 "Door Hardware."
- B. Installation Instructions: Install doors to comply with manufacturer's written instructions and the referenced quality standard, and as indicated.
 - 1. Install fire-rated doors in corresponding fire-rated frames according to NFPA 80.
- C. Job-Fitted Doors: Align and fit doors in frames with uniform clearances and bevels as indicated below; do not trim stiles and rails in excess of limits set by manufacturer or permitted for fire-rated doors. Machine doors for hardware. Seal edges of doors, edges of cutouts, and mortises after fitting and machining.
 - 1. Clearances: Provide 1/8 inch (3.2 mm) at heads, and jambs of doors.
 - 2. Trim door height by providing undercut at bottom of door of 3/4 inch (19mm)
 - a. Comply with NFPA 80 for fire-rated doors.
 - 3. Bevel non-fire-rated doors 1/8 inch in 2 inches (3-1/2 degrees) at lock and hinge edges.
 - 4. Bevel fire-rated doors 1/8 inch in 2 inches (3-1/2 degrees) at lock edge; trim stiles and rails only to extent permitted by labeling agency.
- D. Factory-Fitted Doors: Align in frames for uniform clearance at each edge.
- E. Factory-Finished Doors: Restore finish before installation if fitting or machining is required at Project site.

3.3 ADJUSTING

- A. Operation: Rehang or replace doors that do not swing or operate freely.
- B. Finished Doors: Replace doors that are damaged or that do not comply with requirements. Doors may be repaired or refinished if work complies with requirements and shows no evidence of repair or refinishing.

END OF SECTION 081416

SECTION 087100 - DOOR HARDWARE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes:

1. Mechanical door hardware for the following:
 - a. Swinging doors.
 - b. Sliding doors.
 - c. Folding doors.
2. Cylinders for door hardware specified in other Sections.
3. Electrified door hardware.

- B. Related Sections:

1. Section 081213 "Hollow Metal Frames".
2. Section 081416 "Flush Wood Doors".

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated. Include construction and installation details, material descriptions, dimensions of individual components and profiles, and finishes.

- B. Other Action Submittals:

1. Door Hardware Schedule: Prepared by or under the supervision of Installer, detailing fabrication and assembly of door hardware, as well as installation procedures and diagrams. Coordinate final door hardware schedule with doors, frames, and related work to ensure proper size, thickness, hand, function, and finish of door hardware.
 - a. Submittal Sequence: Submit door hardware schedule concurrent with submissions of Product Data, Samples, and Shop Drawings. Coordinate submission of door hardware schedule with scheduling requirements of other work to facilitate the fabrication of other work that is critical in Project construction schedule.

- b. Format: Comply with scheduling sequence and vertical format in DHI's "Sequence and Format for the Hardware Schedule." Double space entries, and number and date each page.
 - c. Format: Use same scheduling sequence and format and use same door numbers as in the Contract Documents.
 - d. Content: Include the following information:
 - 1) Identification number, location, hand, fire rating, size, and material of each door and frame.
 - 2) Locations of each door hardware set, cross-referenced to Drawings on floor plans and to door and frame schedule.
 - 3) Complete designations, including name and manufacturer, type, style, function, size, quantity, function, and finish of each door hardware product.
 - 4) Description of electrified door hardware sequences of operation and interfaces with other building control systems.
 - 5) Fastenings and other pertinent information.
 - 6) Explanation of abbreviations, symbols, and codes contained in schedule.
 - 7) Mounting locations for door hardware.
 - 8) List of related door devices specified in other Sections for each door and frame.
2. Keying Schedule: Prepared by or under the supervision of Installer, detailing City of New York's final keying instructions for locks. Include schematic keying diagram and index each key set to unique door designations that are coordinated with the Contract Documents.

1.4 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For Installer and Architectural Hardware Consultant.
- B. Product Certificates: For electrified door hardware, from the manufacturer.
 - 1. Certify that door hardware approved for use on types and sizes of labeled fire-rated doors complies with listed fire-rated door assemblies.
- C. Product Test Reports: For compliance with accessibility requirements, based on evaluation of comprehensive tests performed by manufacturer and witnessed by a qualified testing agency, for door hardware on doors located in accessible routes.
- D. Warranty: Special warranty specified in this Section.

1.5 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For each type of door hardware to include in maintenance manuals. Include final hardware schedule.

1.6 QUALITY ASSURANCE

- A. Installer Qualifications: Supplier of products and an employer of workers trained and acceptable to product manufacturers and an Architectural Hardware Consultant who is available during the course of the Work to consult with Contractor, Commissioner, and City of New York about door hardware and keying.
 - 1. Warehousing Facilities: In Project's vicinity.
 - 2. Scheduling Responsibility: Preparation of door hardware and keying schedules.
 - 3. Engineering Responsibility: Preparation of data for electrified door hardware, including Shop Drawings, based on testing and engineering analysis of manufacturer's standard units in assemblies similar to those indicated for this Project.
- B. Architectural Hardware Consultant Qualifications: A person who is experienced in providing consulting services for door hardware installations that are comparable in material, design, and extent to that indicated for this Project and who is currently certified by DHI as follows:
 - 1. For door hardware, an Architectural Hardware Consultant (AHC).
- C. Source Limitations: Obtain each type of door hardware from a single manufacturer.
 - 1. Provide electrified door hardware from same manufacturer as mechanical door hardware, unless otherwise indicated. Manufacturers that perform electrical modifications and that are listed by a testing and inspecting agency acceptable to authorities having jurisdiction are acceptable.
- D. Fire-Rated Door Assemblies: Where fire-rated door assemblies are indicated, provide door hardware rated for use in assemblies complying with NFPA 80 that are listed and labeled by a qualified testing agency, for fire-protection ratings indicated, based on testing at positive pressure according to NFPA 252 or UL 10C, unless otherwise indicated.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Inventory door hardware on receipt and provide secure lock-up for door hardware delivered to Project site.
- B. Tag each item or package separately with identification coordinated with the final door hardware schedule, and include installation instructions, templates, and necessary fasteners with each item or package.
- C. Deliver keys to manufacturer of key control system for subsequent delivery to City of New York.

1.8 COORDINATION

- A. Installation Templates: Distribute for doors, frames, and other work specified to be factory prepared. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing door hardware to comply with indicated requirements.
- B. Security: Coordinate installation of door hardware, keying, and access control with City of New York's security consultant.
- C. Existing Openings: Where hardware components are scheduled for application to existing construction or where modifications to existing door hardware are required, field verify existing conditions and coordinate installation of door hardware to suit opening conditions and to provide proper door operation.

1.9 WARRANTY

- A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of door hardware that fail in materials or workmanship within specified warranty period.

- 1. Warranty Period: 7 years from date of Substantial Completion.

1.10 MAINTENANCE SERVICE

- A. Maintenance Tools and Instructions: Furnish a complete set of specialized tools and maintenance instructions for City of New York's continued adjustment, maintenance, and removal and replacement of door hardware.

PART 2 - PRODUCTS

2.1 SCHEDULED DOOR HARDWARE

- A. Provide door hardware for each door as scheduled to comply with requirements in this Section.
 - 1. Door Hardware Sets: Provide quantity, item, size, finish or color indicated, and named manufacturers' products or approved equivalent products in function and comparable in quality to named products.
- B. Designations: Requirements for design, grade, function, finish, size, and other distinctive qualities of each type of door hardware are indicated in Part 3 "Door Hardware Schedule" Article. Products are identified by using door hardware designations, as follows:
 - 1. Named Manufacturers' Products: Manufacturer and product designation are listed for each door hardware type required for the purpose of establishing

minimum requirements. Basis of Design are abbreviated in Part 3 "Door Hardware Schedule" Article.

2. References to BHMA Designations: Provide products complying with these designations and requirements for description, quality, and function.
3. See attached hardware schedule.

2.2 FABRICATION

- A. Manufacturer's Nameplate: Do not provide products that have manufacturer's name or trade name displayed in a visible location except in conjunction with required fire-rated labels and as otherwise approved by Commissioner.

1. Manufacturer's identification is permitted on rim of lock cylinders only.

- B. Base Metals: Produce door hardware units of base metal indicated, fabricated by forming method indicated, using manufacturer's standard metal alloy, composition, temper, and hardness. Furnish metals of a quality equal to or greater than that of specified door hardware units and BHMA A156.18.

- C. Fasteners: Provide door hardware manufactured to comply with published templates prepared for machine, wood, and sheet metal screws. Provide screws that comply with commercially recognized industry standards for application intended, except aluminum fasteners are not permitted. Provide Phillips flat-head screws with finished heads to match surface of door hardware, unless otherwise indicated.

1. Concealed Fasteners: For door hardware units that are exposed when door is closed, except for units already specified with concealed fasteners. Do not use through bolts for installation where bolt head or nut on opposite face is exposed unless it is the only means of securely attaching the door hardware. Where through bolts are used on hollow door and frame construction, provide sleeves for each through bolt.

2. Fire-Rated Applications:

- a. Wood or Machine Screws: For the following:

- 1) Hinges mortised to doors or frames – As required by manufacturer.
- 2) Strike plates to frames.
- 3) Closers to doors and frames.

- b. Steel Through Bolts: For the following unless door blocking is provided:

- 1) Surface hinges to doors.
- 2) Closers to doors and frames.
- 3) Surface-mounted exit devices.

3. Spacers or Sex Bolts: For through bolting of hollow-metal doors.
4. Fasteners for Wood Doors: Comply with requirements in DHI WDHS.2, "Recommended Fasteners for Wood Doors."
5. Gasketing Fasteners: Provide noncorrosive fasteners for exterior applications and elsewhere as indicated.

2.3 FINISHES

- A. Provide finishes complying with BHMA A156.18 as indicated in door hardware schedule.
- B. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.
- C. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of the range of approved Samples. Noticeable variations in the same piece are not acceptable. Variations in appearance of other components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine doors and frames, with Installer present, for compliance with requirements for installation tolerances, labeled fire-rated door assembly construction, wall and floor construction, and other conditions affecting performance.
- B. Examine roughing-in for electrical power systems to verify actual locations of wiring connections before electrified door hardware installation.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Steel Doors and Frames: For surface applied door hardware, drill and tap doors and frames according to ANSI/SDI A250.6.
- B. Wood Doors: Comply with DHI WDHS.5 "Recommended Hardware Reinforcement Locations for Mineral Core Wood Flush Doors."

3.3 INSTALLATION

- A. Mounting Heights: Mount door hardware units at heights to comply with the following unless otherwise indicated or required to comply with governing regulations.
 - 1. Standard Steel Doors and Frames: ANSI/SDI A250.8.
 - 2. Custom Steel Doors and Frames: HMMA 831.
 - 3. Wood Doors: DHI WDHS.3, "Recommended Locations for Architectural Hardware for Wood Flush Doors."
- B. Install each door hardware item to comply with manufacturer's written instructions. Where cutting and fitting are required to install door hardware onto or into surfaces that are later to be painted or finished in another way, coordinate removal, storage, and

reinstallation of surface protective trim units with finishing. Do not install surface-mounted items until finishes have been completed on substrates involved.

1. Set units level, plumb, and true to line and location. Adjust and reinforce attachment substrates as necessary for proper installation and operation.
 2. Drill and countersink units that are not factory prepared for anchorage fasteners. Space fasteners and anchors according to industry standards.
- C. Hinges: Install types and in quantities indicated in door hardware schedule but not fewer than the number recommended by manufacturer for application indicated or one hinge for every 30 inches (750 mm) of door height, whichever is more stringent, unless other equivalent means of support for door, such as spring hinges or pivots, are provided.
- D. Intermediate Offset Pivots: Where offset pivots are indicated, provide intermediate offset pivots in quantities indicated in door hardware schedule but not fewer than one intermediate offset pivot per door and one additional intermediate offset pivot for every 30 inches (750 mm) of door height greater than 90 inches (2286 mm).
- E. Lock Cylinders: Install construction cores to secure building and areas during construction period.
1. Replace construction cores with permanent cores as directed by City of New York.
 2. Furnish permanent cores to City of New York for installation.
- F. Key Control System: Tag keys and place them on markers and hooks in key control system cabinet, as determined by final keying schedule.
- G. Thresholds: Set thresholds for exterior doors and other doors indicated in full bed of sealant.
- H. Stops: Provide floor stops for doors unless wall or other type stops are indicated in door hardware schedule. Do not mount floor stops where they will impede traffic.
- I. Perimeter Gasketing: Apply to head and jamb, forming seal between door and frame.
- J. Meeting Stile Gasketing: Fasten to meeting stiles, forming seal when doors are closed.
- K. Door Bottoms: Apply to bottom of door, forming seal with threshold when door is closed.

3.4 FIELD QUALITY CONTROL

- A. Independent Architectural Hardware Consultant: Engage a qualified independent Architectural Hardware Consultant to perform inspections and to prepare inspection reports.
1. Independent Architectural Hardware Consultant will inspect door hardware and state in each report whether installed work complies with or deviates from

requirements, including whether door hardware is properly installed and adjusted.

3.5 ADJUSTING

- A. Initial Adjustment: Adjust and check each operating item of door hardware and each door to ensure proper operation or function of every unit. Replace units that cannot be adjusted to operate as intended. Adjust door control devices to compensate for final operation of heating and ventilating equipment and to comply with referenced accessibility requirements.
 - 1. Spring Hinges: Adjust to achieve positive latching when door is allowed to close freely from an open position of 30 degrees.
 - 2. Electric Strikes: Adjust horizontal and vertical alignment of keeper to properly engage lock bolt.
 - 3. Door Closers: Adjust sweep period to comply with accessibility requirements and requirements of authorities having jurisdiction.
- B. Occupancy Adjustment: Approximately three months after date of Substantial Completion, Installer's Architectural Hardware Consultant shall examine and readjust each item of door hardware, including adjusting operating forces, as necessary to ensure function of doors, door hardware, and electrified door hardware.

3.6 CLEANING AND PROTECTION

- A. Clean adjacent surfaces soiled by door hardware installation.
- B. Clean operating items as necessary to restore proper function and finish.
- C. Provide final protection and maintain conditions that ensure that door hardware is without damage or deterioration at time of Substantial Completion.

3.7 DEMONSTRATION

- A. Engage a factory-authorized service representative to train City of New York's maintenance personnel to adjust, operate, and maintain door hardware and door hardware finishes. Refer to DDC General Conditions.

3.8 DOOR HARDWARE SCHEDULE

Group # 1

3 HINGE(S)	BB1191. 4 1/2 X 4 1/2 NRP	US32D	HA
1 LOCKSET	CRR 8701FL	US32 D	YA
1 CLOSER	3511 SNB SRI	689	YA
1 KICK PLATE(S)	190S 8" X 34"	US32D	HA
1 WALL STOP(S)	236SW	US32D	HA

Code	Manufacturers Name
HA	HAGAR
YA	YALE
Finish	Finish Schedule
689	ALUMINUM
US32D	STAINLESS STEEL, DUL

END OF SECTION 087100

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SECTION 092216 - NON-STRUCTURAL METAL FRAMING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:

1. Non-load-bearing steel framing systems for interior gypsum board assemblies.
2. Suspension systems for interior gypsum ceilings, soffits, and grid systems.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.

1.4 DESCRIPTION

- A. Fire-Test-Response Characteristics: For fire-resistance-rated assemblies that incorporate non-load-bearing steel framing, provide materials and construction identical to those tested in assembly indicated according to ASTM E 119 by an independent testing agency.
- B. STC-Rated Assemblies: For STC-rated assemblies, provide materials and construction identical to those tested in assembly indicated according to ASTM E 90 and classified according to ASTM E 413 by an independent testing agency.
- C. Recycled Content of Steel Products: Postconsumer recycled content plus one-half of preconsumer recycled content not less than 25 percent.

1.5 FRAMING SYSTEMS

- A. Framing Members, General: Comply with ASTM C 754 for conditions indicated.
 1. Steel Sheet Components: Comply with ASTM C 645 requirements for metal unless otherwise indicated.

- B. Studs and Runners: ASTM C 645.
 - 1. Steel Studs and Runners:
 - a. Minimum Base-Metal Thickness: As indicated on Drawings
 - b. Depth: As indicated on Drawings
- C. Hat-Shaped, Rigid Furring Channels: ASTM C 645.
 - 1. Minimum Base-Metal Thickness: As indicated on Drawings
 - 2. Depth: As indicated on Drawings
- D. Cold-Rolled Furring Channels: 0.053-inch (1.34-mm) uncoated-steel thickness, with minimum 1/2-inch- (13-mm-) wide flanges.
 - 1. Depth: As indicated on Drawings

1.6 AUXILIARY MATERIALS

- A. General: Provide auxiliary materials that comply with referenced installation standards.
 - 1. Fasteners for Metal Framing: Of type, material, size, corrosion resistance, holding power, and other properties required to fasten steel members to substrates.
- B. Isolation Strip at Exterior Walls: Provide one of the following:
 - 1. Asphalt-Saturated Organic Felt: ASTM D 226, Type I (No. 15 asphalt felt), nonperforated.
 - 2. Foam Gasket: Adhesive-backed, closed-cell vinyl foam strips that allow fastener penetration without foam displacement, 1/8 inch (3.2 mm) thick, in width to suit steel stud size.

PART 2 - EXECUTION

2.1 EXAMINATION

- A. Examine areas and substrates, with Installer present, and including welded hollow-metal frames, cast-in anchors, and structural framing, for compliance with requirements and other conditions affecting performance of the Work.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

2.2 PREPARATION

- A. Suspended Assemblies: Coordinate installation of suspension systems with installation of overhead structure to ensure that inserts and other provisions for anchorages to building structure have been installed to receive hangers at spacing required to support the Work and that hangers will develop their full strength.
 - 1. Furnish concrete inserts and other devices indicated to other trades for installation in advance of time needed for coordination and construction.
- B. Coordination with Sprayed Fire-Resistive Materials:
 - 1. Before sprayed fire-resistive materials are applied, attach offset anchor plates or ceiling runners (tracks) to surfaces indicated to receive sprayed fire-resistive materials. Where offset anchor plates are required, provide continuous plates fastened to building structure not more than 24 inches (610 mm) o.c.
 - 2. After sprayed fire-resistive materials are applied, remove them only to extent necessary for installation of non-load-bearing steel framing. Do not reduce thickness of fire-resistive materials below that required for fire-resistance ratings indicated. Protect adjacent fire-resistive materials from damage.

2.3 INSTALLATION, GENERAL

- A. Installation Standard: ASTM C 754, except comply with framing sizes and spacing indicated.
 - 1. Gypsum Plaster Assemblies: Also comply with requirements in ASTM C 841 that apply to framing installation.
 - 2. Portland Cement Plaster Assemblies: Also comply with requirements in ASTM C 1063 that apply to framing installation.
 - 3. Gypsum Veneer Plaster Assemblies: Also comply with requirements in ASTM C 844 that apply to framing installation.
 - 4. Gypsum Board Assemblies: Also comply with requirements in ASTM C 840 that apply to framing installation.
- B. Install supplementary framing, and blocking to support fixtures, equipment services, heavy trim, grab bars, toilet accessories, furnishings, or similar construction.
- C. Install bracing at terminations in assemblies.
- D. Do not bridge building control and expansion joints with non-load-bearing steel framing members. Frame both sides of joints independently.

2.4 INSTALLING FRAMED ASSEMBLIES

- A. Where studs are installed directly against exterior masonry walls or dissimilar metals at exterior walls, install isolation strip between studs and exterior wall.
- B. Install studs so flanges within framing system point in same direction.
 - 1. Space studs as follows:
 - a. Single-Layer Application: 16 inches (406 mm) o.c. unless otherwise indicated.
 - b. Tile Backing Panels: 16 inches (406 mm) o.c. unless otherwise indicated.
- C. Install tracks (runners) at floors and overhead supports. Extend framing full height to structural supports or substrates above suspended ceilings, except where partitions are indicated to terminate at suspended ceilings. Continue framing around ducts penetrating partitions above ceiling.
 - 1. Slip-Type Head Joints: Where framing extends to overhead structural supports, install to produce joints at tops of framing systems that prevent axial loading of finished assemblies.
 - 2. Door Openings: Screw vertical studs at jambs to jamb anchor clips on door frames; install runner track section (for cripple studs) at head and secure to jamb studs.
 - a. Install two studs at each jamb unless otherwise indicated.
 - b. Install cripple studs at head adjacent to each jamb stud, with a minimum 1/2-inch (13-mm) clearance from jamb stud to allow for installation of control joint in finished assembly.
 - c. Extend jamb studs through suspended ceilings and attach to underside of overhead structure.
 - 3. Other Framed Openings: Frame openings other than door openings the same as required for door openings unless otherwise indicated. Install framing below sills of openings to match framing required above door heads.
 - 4. Fire-Resistance-Rated Partitions: Install framing to comply with fire-resistance-rated assembly indicated and support closures and to make partitions continuous from floor to underside of solid structure.
 - a. Firestop Track: Where indicated, install to maintain continuity of fire-resistance-rated assembly indicated.
 - 5. Sound-Rated Partitions: Install framing to comply with sound-rated assembly indicated.
 - 6. Curved Partitions:
 - a. Bend track to uniform curve and locate straight lengths so they are tangent to arcs.

- b. Begin and end each arc with a stud, and space intermediate studs equally along arcs. On straight lengths of no fewer than two studs at ends of arcs, place studs 6 inches (150 mm) o.c.

END OF SECTION 092216

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SECTION 092900 - GYPSUM BOARD

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:

- 1. Interior gypsum board.
 - 2. Exterior gypsum board for ceilings and soffits.
 - 3. Tile backing panels.
 - 4. Texture finishes.

- B. Related Requirements:

- 1. Section 092216 "Non-Structural Metal Framing" for non-structural framing and suspension systems that support gypsum board panels.
 - 2. Section 093000 "Tiling" for cementitious backer units installed as substrates for ceramic tile.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.

- B. Samples: For the following products:

- 1. Trim Accessories: Full-size Sample in 12-inch- (300-mm-) long length for each trim accessory indicated.
 - 2. Textured Finishes: Manufacturer's standard size for each textured finish indicated and on same backing indicated for Work.

1.4 QUALITY ASSURANCE

- A. Mockups: Before beginning gypsum board installation, install mockups of at least 100 sq. ft. (9 sq. m) in surface area to demonstrate aesthetic effects and set quality standards for materials and execution.

1. Install mockups for the following:
 - a. Each level of gypsum board finish indicated for use in exposed locations.
 - b. Each texture finish indicated.
2. Apply or install final decoration indicated, including painting and wall coverings, on exposed surfaces for review of mockups.
3. Simulate finished lighting conditions for review of mockups.
4. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.5 DELIVERY, STORAGE AND HANDLING

- A. Store materials inside under cover and keep them dry and protected against weather, condensation, direct sunlight, construction traffic, and other potential causes of damage. Stack panels flat and supported on risers on a flat platform to prevent sagging.

1.6 FIELD CONDITIONS

- A. Environmental Limitations: Comply with ASTM C 840 requirements or gypsum board manufacturer's written recommendations, whichever are more stringent.
- B. Do not install paper-faced gypsum panels until installation areas are enclosed and conditioned.
- C. Do not install panels that are wet, those that are moisture damaged, and those that are mold damaged.
 1. Indications that panels are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.
 2. Indications that panels are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Fire-Resistance-Rated Assemblies: For fire-resistance-rated assemblies, provide materials and construction identical to those tested in assembly indicated according to ASTM E 119 by an independent testing agency.
- B. STC-Rated Assemblies: For STC-rated assemblies, provide materials and construction identical to those tested in assembly indicated according to ASTM E 90 and classified according to ASTM E 413 by an independent testing agency.

- C. Low-Emitting Materials: For ceiling and wall assemblies, provide materials and construction identical to those tested in assembly and complying with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."

2.2 GYPSUM BOARD, GENERAL

- A. Size: Provide maximum lengths and widths available that will minimize joints in each area and that correspond with support system indicated.

2.3 INTERIOR GYPSUM BOARD

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Georgia-Pacific Gypsum LLC.
2. National Gypsum Company.
3. USG Corporation.

- B. Abuse-Resistant Gypsum Board: ASTM C 1629/C 1629M, Level 1.

1. Core: As indicated on Drawings. Type X.
2. Long Edges: Tapered.
3. Mold Resistance: ASTM D 3273, score of 10 as rated according to ASTM D 3274.

2.4 TILE BACKING PANELS

- A. Cementitious Backer Units: ANSI A118.9 and ASTM C 1288 or 1325, with manufacturer's standard edges.

1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:

- a. C-Cure; C-Cure Board 990.
- b. CertainTeed Corp.
- c. Custom Building Products
- d. FinPan, Inc.
- e. James Hardie Building Products, Inc.
- f. National Gypsum Company, PermaBase Cement Board.
- g. USG Corporation; DUROCK Cement Board.

2. Thickness: 1/2 inch (12.7 mm)

3. Mold Resistance: ASTM D 3273, score of 10 as rated according to ASTM D 3274.

2.5 TRIM ACCESSORIES

- A. Interior Trim: ASTM C 1047.
 1. Material:
 - a. Rolled zinc;
 - b. Plastic (as indicated in drawings).
 2. Shapes:
 - a. Cornerbead.
 - b. As indicated in drawings.

2.6 JOINT TREATMENT MATERIALS

- A. General: Comply with ASTM C 475/C 475M.
- B. Joint Tape:
 1. Interior Gypsum Board: Paper.
 2. Tile Backing Panels: As recommended by panel manufacturer.
- C. Joint Compound for Interior Gypsum Board: For each coat use formulation that is compatible with other compounds applied on previous or for successive coats.
 1. As recommended by manufacturer.

2.7 AUXILIARY MATERIALS

- A. General: Provide auxiliary materials that comply with referenced installation standards and manufacturer's written recommendations.
- B. Steel Drill Screws: ASTM C 1002, unless otherwise indicated.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas and substrates including welded hollow-metal frames and framing, with Installer present, for compliance with requirements and other conditions affecting performance.
- B. Examine panels before installation. Reject panels that are wet, moisture damaged, and mold damaged.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 APPLYING AND FINISHING PANELS, GENERAL

- A. Comply with ASTM C 840.
- B. Install ceiling panels across framing to minimize the number of abutting end joints and to avoid abutting end joints in central area of each ceiling. Stagger abutting end joints of adjacent panels not less than one framing member.
- C. Install panels with face side out. Butt panels together for a light contact at edges and ends with not more than 1/16 inch (1.5 mm) of open space between panels. Do not force into place.
- D. Locate edge and end joints over supports, except in ceiling applications where intermediate supports or gypsum board back-blocking is provided behind end joints. Do not place tapered edges against cut edges or ends. Stagger vertical joints on opposite sides of partitions. Do not make joints other than control joints at corners of framed openings.
- E. Form control and expansion joints with space between edges of adjoining gypsum panels.
- F. Cover both faces of support framing with gypsum panels in concealed spaces (above ceilings, etc.), except in chases braced internally.
 - 1. Unless concealed application is indicated or required for sound, fire, air, or smoke ratings, coverage may be accomplished with scraps of not less than 8 sq. ft. (0.7 sq. m) in area.
 - 2. Fit gypsum panels around ducts, pipes, and conduits.
 - 3. Where partitions intersect structural members projecting below underside of floor/roof slabs and decks, cut gypsum panels to fit profile formed by structural members; allow 1/4- to 3/8-inch- (6.4- to 9.5-mm-) wide joints to install sealant.
- G. Isolate perimeter of gypsum board applied to non-load-bearing partitions at structural abutments, except floors. Provide 1/4- to 1/2-inch- (6.4- to 12.7-mm-) wide spaces at

these locations and trim edges with edge trim where edges of panels are exposed. Seal joints between edges and abutting structural surfaces with acoustical sealant.

- H. Attachment to Steel Framing: Attach panels so leading edge or end of each panel is attached to open (unsupported) edges of stud flanges first.
- I. Wood Framing: Install gypsum panels over wood framing, with floating internal corner construction. Do not attach gypsum panels across the flat grain of wide-dimension lumber, including floor joists and headers. Float gypsum panels over these members or provide control joints to counteract wood shrinkage.
- J. STC-Rated Assemblies: Seal construction at perimeters, behind control joints, and at openings and penetrations with a continuous bead of acoustical sealant. Install acoustical sealant at both faces of partitions at perimeters and through penetrations. Comply with ASTM C 919 and with manufacturer's written recommendations for locating edge trim and closing off sound-flanking paths around or through assemblies, including sealing partitions above acoustical ceilings.
- K. Install sound attenuation blankets before installing gypsum panels unless blankets are readily installed after panels have been installed on one side.

3.3 APPLYING INTERIOR GYPSUM BOARD

- A. Install interior gypsum board in the following locations:
 - 1. Wallboard Type: As indicated on Drawings
 - 2. Abuse-Resistant Type: As indicated on Drawings
- B. Single-Layer Application:
 - 1. On ceilings, apply gypsum panels before wall/partition board application to greatest extent possible and at right angles to framing unless otherwise indicated.
 - 2. On partitions/walls, apply gypsum panels vertically.

3.4 APPLYING TILE BACKING PANELS

- A. Cementitious Backer Units: ANSI A108.11, Where indicated in drawings

3.5 INSTALLING TRIM ACCESSORIES

- A. General: For trim with back flanges intended for fasteners, attach to framing with same fasteners used for panels. Otherwise, attach trim according to manufacturer's written instructions.
- B. Interior Trim: Install in the following locations:

1. Cornerbead: Use at outside corners unless otherwise indicated.
2. Z-Trim: As indicated in drawings.

3.6 FINISHING GYPSUM BOARD

- A. General: Treat gypsum board joints, interior angles, edge trim, control joints, penetrations, fastener heads, surface defects, and elsewhere as required to prepare gypsum board surfaces for decoration. Promptly remove residual joint compound from adjacent surfaces.
- B. Prefill open joints beveled edges, and damaged surface areas.
- C. Apply joint tape over gypsum board joints, except for trim products specifically indicated as not intended to receive tape.
- D. Gypsum Board Finish Levels: Finish panels to levels indicated below and according to ASTM C 840:
 1. Level 4: At panel surfaces that will be exposed to view unless otherwise indicated.
 - a. Level 5 is suitable for surfaces receiving gloss and semi-gloss enamels and other surfaces subject to severe lighting. It is considered a high-quality gypsum board finish.
- E. Cementitious Backer Units: Finish according to manufacturer's written instructions.

3.7 PROTECTION

- A. Protect adjacent surfaces from drywall compound and promptly remove from floors and other non-drywall surfaces. Repair surfaces stained, marred, or otherwise damaged during drywall application.
- B. Protect installed products from damage from weather, condensation, direct sunlight, construction, and other causes during remainder of the construction period.
- C. Remove and replace panels that are wet, moisture damaged, and mold damaged.
 1. Indications that panels are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.
 2. Indications that panels are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

END OF SECTION 092900

SECTION 093000 – TILING

PART 1 - GENERAL

1.1 - SUMMARY

- A. Section Includes:
 - 1. Tile and Accessories:
 - 2. Color Body Porcelain Tile.
 - 3. Floor and Wall Tile.

1.2 REFERENCES

- A. American National Standards Institute (ANSI):
 - 1. ANSI A108/A118/A136.1 - Specifications for the Installation of Ceramic Tile.
 - 2. ANSI A137.1 - Specifications for Ceramic Tile.
- B. American International (ASTM):
 - 1. ASTM C 144 - Standard Specification for Aggregate for Masonry Mortar.
 - 2. ASTM C 150 - Standard Specification for Portland Cement.
 - 3. ASTM C 207 - Standard Specification for Hydrated Lime for Masonry Purposes.
 - 4. ASTM C 503 - Specification for Marble Building Stone (Exterior).
 - 5. ASTM C 615 - Specification for Granite Dimension Stone.
 - 6. ASTM C 629 - Specification for Slate Dimension Stone.
 - 7. ASTM C 847 - Standard Specification for Metal Lath.
 - 8. ASTM C 1028 - Standard Test Method for Determining the Static Coefficient of Friction or Ceramic Tile and Other Like Surfaces by the Horizontal Dynamometer Pull-Meter Method.
 - 9. ASTM D 4397 - Specification for Polyethylene Sheeting for Construction, Industrial, and Agricultural Applications.
 - 10. Tile Council of North America (TCNA): TCA Handbook for Ceramic Tile Installation, 2010.

1.3 PERFORMANCE REQUIREMENTS

- A. Static Coefficient of Friction: Tile on walkway surfaces shall meet or exceed the following values as determined by testing in conformance with ASTM C 1028.
 - 1. Level Surfaces: Minimum of 0.6 (Wet).
 - 2. Step Treads: Minimum of 0.6 (Wet).
 - 3. Ramp Surfaces: Minimum of 0.8 (Wet).

1.4 ACTION SUBMITTALS

- A. Submit under provisions of DDC General Conditions . Obtain approvals of submittals prior to delivering products to the jobsite.
- B. Product Data: Manufacturer's data sheets on each product to be used, including:
 - 1. Preparation instructions and recommendations.

2. Storage and handling requirements and recommendations.
 3. Installation methods.
- C. Shop Drawings: Indicate tile layout, patterns, color arrangement, perimeter conditions, junctions with dissimilar materials, control and expansion joints, thresholds, ceramic accessories, and setting details.
- D. Selection Samples:
1. Color charts illustrating full range of colors and patterns.
 2. Full-size samples of actual tiles for selection.
- E. Verification Samples: For tile 8 by 8 inches (203 by 203 mm) and smaller, mount actual units on minimum 12 by 12 inch (305 by 305 mm) plywood panels and grout with selected grout. For larger tile, submit two units of each type, and grout chart indicating selections

1.5 INFORMATIONAL SUBMITTALS

- A. Manufacturer's Certificate: When applicable, submit a Master Grade Certificate signed by the manufacturer and the installer certifying that products meet or exceed the specified requirements of ANSI A137.1.
- B. Maintenance Data: Include recommended cleaning methods, cleaning materials, and maintenance coatings.

1.6 QUALITY ASSURANCE

- A. Installer Qualifications: Company specializing in performing the work of this section with minimum two years experience.
- B. Single Source Responsibility: Obtain each type and color of tile from a single source. Obtain each type and color of mortar, adhesive and grout from the same source.
- C. General: Provide tile that complies with ANSI A137.1 where applicable for types, compositions and other characteristics indicated. Provide tile in the locations and of the types colors and pattern indicated on the Drawings.
1. Factory Blending: For tile exhibiting color variations within the ranges selected under Submittal of samples, blend tile in the factory and package so tile taken from one package shows the same range of colors as those taken from other packages.
 2. Mounting: For factory mounted tile, provide back or edge mounted tile assemblies as standard with the manufacturer, unless otherwise specified.
 3. Factory Applied Temporary Protective Coatings: Where indicated under tile type, protect exposed surfaces of tile against adherence of mortar and grout by precoating with a continuous film of petroleum paraffin wax applied hot. Do not coat unexposed tile surfaces.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Deliver and store products in manufacturer's unopened packaging until ready for installation.
- B. Protect setting materials from freezing or overheating in accordance with manufacturer's instructions.
- C. Store tile and setting materials on elevated platforms, under cover and in a dry location and protect from contamination, dampness, freezing or overheating.

1.8 ENVIRONMENTAL REQUIREMENTS

- A. Do not install adhesives in an unventilated environment.
- B. Maintain ambient and substrate temperature of 50 degrees F (10 degrees C) during tiling and for a minimum of 7 days after completion.

1.9 EXTRA MATERIALS

- A. Provide for City of New York's use a minimum of 2 percent of the primary sizes and colors of tile specified, boxed and clearly labeled.

1.8 WARRANTY

- A. Special Manufacturer's Warranty: Provide manufacturer's standard form in which manufacturer agrees to repair or replace products that fail in materials or workmanship during the following period after substantial completion:
 - 1. Warranty Period: Fifteen (15) years from substantial completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer: American Olean Tile Co., Daltile, Bon Ton Tile or Approved Equal.

2.2 TILE

- A. Porcelain Mosaic Tile:
 - 1. Series: Unglazed Mosaics and Options.
 - 2. Floor and Wall Field Tile Size: 1 by 1 inches.
 - 3. Color: Glacier (1) A62
 - 4. Moisture Absorption: From .01 to .5 percent.
 - 5. Surface Finishes: Plain.
 - 6. Trim Name: Cove Base

2.3 TILE SETTING MATERIALS

- A. Tile Setting Materials: Comply with ANSI A108/A118/A136.1 as applicable to the installation methods referenced in Part 3 of this Section.
- B. Silicone Sealant: Silicone sealant, moisture and mildew resistant type, white; use for shower floors and shower walls.
- C. Patching and Leveling Compound: As recommended by tile manufacturer and compatible with both substrate and setting materials.
- D. Cleavage Membrane at Floors: Polyethylene film, ASTM D 4397, 4.0 mil thickness.
- E. Membrane at Walls: Polyethylene film, ASTM D 4397, 4.0 mil thickness.
- F. Cementitious Backer Board: High density, cementitious, glass fiber reinforced with 2 inch (50 mm) wide coated glass fiber tape for joints and corners:
 - 1. Thickness: 1/4 inch (6 mm).
 - 2. Thickness: 1/2 inch (13 mm).
- G. Stone Thresholds: Provide stone thresholds uniform in color and finish and fabricated from the following material:
 - 1. Material: Marble, ASTM C 503.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Acceptability of Surfaces: Inspect surfaces to be tiled to ensure proper bonding can be achieved, and to verify that surfaces are free of curing membranes, oil, grease, wax and dust.
- B. Substrate Tolerances: Before tiling, inspect surfaces to be tiled to verify that the following tolerances are not exceeded. If tolerances are exceeded, provide specified leveling coat to achieve specified tolerances.
 - 1. Walls: 1/8 inch in 8 feet (3 mm in 2.4 m) for dry-set mortar, epoxy and organic adhesives.
 - 2. Floors: 1/8 inch in 10 feet (3 mm in 3 m) for dry-set mortar and epoxy; 1/16 inch in 3 feet (1.5 mm in 1 m) for organic adhesive.

3.2 PREPARATION

- A. Layout: Determine locations of control and expansion joints before starting tile work. Layout tile work to minimize cuts less than one-half tile in size.

3.3 INSTALLATION

- A. General: Comply with ANSI A108/A118/A136.1 and manufacturer's recommendations. Comply with applicable TCA Handbook for Tile Installation requirements as listed below.
 - 1. Floors, Interior, Wood Subfloor:

- a. TCA F141, cement mortar.
 - b. TCA F142, organic adhesive.
 - c. TCA F143, epoxy mortar and grout.
 - d. TCA F144, cementitious backer unit/fiber cement underlayment thin-set.
 - e. TCA F147, uncoupling membrane, 24 inch on center joist spacing, thin-set.
 - f. TCA F148, uncoupling membrane, 19.2 inch on center joist spacing, thin-set.
 - g. TCA F149, plywood underlayment, 24 inch on center joist spacing, EGP (exterior glue plywood) latex-Portland cement mortar.
 - h. TCA F152, membrane system, 24 inch on center joist spacing, latex-Portland cement mortar.
 - i. TCA F155, OSB subfloor, 24 inch on center joist spacing, EPG latex-Portland cement mortar.
 - j. TCA F170, fiber-reinforced water-resistant gypsum backer board latex-Portland cement mortar.
2. Walls, Interior, Wood or Metal Studs:
- TCA W243, gypsum board thin-set.
- a. TCA W244C, interior, thin-set.
 - b. TCA W244F, fiber cement underlayment.
 - c. TCA W245, coated glass mat water-resistant gypsum backer board.
 - d. TCA W246, cementitious-coated foam backer board.
 - e. TCA W247, fiber-reinforced water-resistant gypsum backer board.

B - CLEANING AND PROTECTION

1. Cleaning: Clean tile within time period recommended by manufacturer, using materials recommended by manufacturer.
2. Protection: Prohibit foot and wheeled traffic from floors for a minimum of 3 days. Where traffic is unavoidable, provide large flat boards in walkways and wheelways for a minimum of 7 days after installation. Protect from construction dirt and debris with heavy-duty, non-staining construction paper, masked in place.

END OF SECTION

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SECTION 095113 - ACOUSTICAL PANEL CEILINGS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general conditions of Contract, including General and Supplementary Conditions and Divisions-1 Specification sections apply to work of this section.

1.2 SUMMARY

- A. Section Includes:

- 1. Acoustical ceiling panels.
 - 2. Exposed grid suspension system.
 - 3. Wire hangers, fasteners, main runners, cross tees, and wall angle moldings.

- B. Related Sections:

- 1. Section 09 20 00 - Plaster and Gypsum Board
 - 2. Divisions 23 - HVAC
 - 3. Division 26 Sections - Electrical Work

- C. Substitutions

- 1. Submittals which do not provide adequate data for the product evaluation will not be considered. The proposed substitution must meet all requirements of this section, including but not necessarily limited to, the following: Single source materials suppliers (if specified in Section 1.5); Underwriters' Laboratories Classified Acoustical performance; Panel design, size, composition, color, and finish; Suspension system component profiles and sizes; Compliance with the referenced standards.

1.3 REFERENCES

- A. American Society for Testing and Materials (ASTM):

- 1. ASTM A 1008 Standard Specification for Steel, Sheet, Cold Rolled, Carbon, Structural, High-Strength Low-Alloy and High-Strength Low-Alloy with Improved Formability.
 - 2. ASTM A 641 Standard Specification for Zinc-Coated (Galvanized) Carbon Steel Wire.

3. ASTM A 653 Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) by the Hot-Dip Process.
 4. ASTM C 423 Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method.
 5. ASTM C 635 Standard Specification for Metal Suspension Systems for Acoustical Tile and Lay-in Panel Ceilings.
 6. ASTM C 636 Recommended Practice for Installation of Metal Ceiling Suspension Systems for Acoustical Tile and Lay-in Panels.
 7. ASTM E 84 Standard Test Method for Surface Burning Characteristics of Building Materials.
 8. ASTM E 1414 Standard Test Method for Airborne Sound Attenuation Between Rooms Sharing a Common Ceiling Plenum.
 9. ASTM E 1111 Standard Test Method for Measuring the Interzone Attenuation of Ceilings Systems.
 10. ASTM E 1264 Classification for Acoustical Ceiling Products.
 11. ASTM E 1477 Standard Test Method for Luminous Reflectance Factor of Acoustical Materials by Use of Integrating-Sphere Reflectometers.
 12. ASTM D 3273 Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber.
 13. ASTM E 119 Standard Test Methods for Fire Tests of Building Construction and Material.
- B. ASHRAE Standard 62.1-2004, "Ventilation for Acceptable Indoor Air Quality"
- C. International Code Council-Evaluation Services - AC 156 Acceptance Criteria for Seismic Qualification Testing of Non-structural Components
- D. International Code Council-Evaluation Services - Evaluation Report, ESR-1308, Fire- and Nonfire-Resistance-Rated Suspended Ceiling Framing Systems
- E. ASCE 7 Standard - American Society of Civil Engineers, Minimum Design Loads for Buildings and Other Structures
- F. CISCA Seismic Zones 3 & 4 - Ceilings and Interior Systems Construction Association Guidelines for Seismic Restraint for Direct Hung Suspended Ceiling Assemblies

1.4 SYSTEM DESCRIPTION

- A. Seismic Loads: Design and size components to withstand seismic loads in accordance with the International Building Code, Section 1621 for Category D,E, and F.

1.5 SUBMITTALS

- A. Product Data: Submit manufacturer's technical data for each type of acoustical ceiling unit and suspension system required.
- B. Installation Instructions: Submit manufacturer's installation instructions for product as referenced in 3.3 INSTALLATION Section.
- C. Maintenance Information: Submit Owner's Kit for products.
- D. Samples: Minimum 6 inch x 6 inch samples of specified acoustical panel; 8 inch long samples of exposed wall molding and suspension system, including main runner and 4 foot cross tees.
- E. Shop Drawings: Layout and details of acoustical ceilings. Show locations of items which are to be coordinated with, or supported by the ceilings.
- F. Certifications: Manufacturer's certifications that system complies with specified requirements:
 - 1. For seismic performance: International Code Council Evaluation Report, ESR-1308
 - 2. For acoustical performance, each carton of material must carry an approved independent laboratory classification of NRC, CAC, and AC.
- G. If the material supplied by the acoustical subcontractor does not have an Underwriter's Laboratory classification of acoustical performance on every carton, subcontractor shall be required to send material from every production run appearing on the job to an independent or NVLAP approved laboratory for testing, at the Commissioner's or City of New York's discretion. All products not conforming to manufacturer's current published values must be removed, disposed of and replaced with complying product at the expense of the Contractor performing the work.

1.6 QUALITY ASSURANCE

- A. Single-Source Responsibility: Provide acoustical panel units and grid components by a single manufacturer.
- B. Fire Performance Characteristics: Identify acoustical ceiling components with appropriate markings of applicable testing and inspecting organization.
 - 1. Surface Burning Characteristics: As follows, tested per ASTM E 84 and complying with ASTM E 1264 for Class A products.

- a. Flame Spread: 25 or less
- b. Smoke Developed: 50 or less
- C. Seismic Performance: Provide acoustical ceiling system that has been evaluated by an independent party and found to be compliant with the 2003 International Building Code, Seismic Category D, E, and F.
 - 1. Tested per International Code Council - Evaluation Services - AC 156 Acceptance Criteria for Seismic Qualification Testing of Non-structural Components as evidenced by International Code Council Evaluation Report, ESR-1308.
- D. Handle acoustical ceiling units carefully to avoid chipping edges or damaged units in any way.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Deliver acoustical ceiling units to project site in original, unopened packages and store them in a fully enclosed space where they will be protected against damage from moisture, direct sunlight, surface contamination, and other causes.
- B. Before installing acoustical ceiling units, permit them to reach room temperature and a stabilized moisture content.
- C. Handle acoustical ceiling units carefully to avoid chipping edges or damaged units in any way.

1.8 PROJECT CONDITIONS

- A. Space Enclosure:
 - 1. All ceiling products and suspension systems must be installed and maintained in accordance with Armstrong written installation instructions for that product in effect at the time of installation and best industry practice. Prior to installation, the ceiling product must be kept clean and dry, in an environment that is between 32°F (0°C) and 120°F (49°C) and not subject to Abnormal Conditions.
 - a. Abnormal conditions include exposure to chemical fumes, vibrations, moisture from conditions such as building leaks or condensation, excessive humidity, or excessive dirt or dust buildup.

1.9 WARRANTY

- A. Acoustical Panel: Submit a written warranty executed by the manufacturer, agreeing to repair or replace acoustical panels that fail within the warranty period. Failures include, but are not limited to:

1. Acoustical Panels: Sagging and warping as a result of defects in materials or factory workmanship.
 2. Grid System: Rusting and manufacturer's defects
 3. Warranty Period: Life of Installation
- B. The Warranty shall not deprive the City of New York of other rights the City of New York may have under other provisions of the Contract Documents and will be in addition to and run concurrent with other warranties made by the Contractor under the requirements of the Contract Documents.

1.10 MAINTENANCE

- A. Extra Materials: Deliver extra materials to the City of New York. Furnish extra materials described below that match products installed. Packaged with protective covering for storage and identified with appropriate labels.
1. Acoustical Ceiling Units: Furnish quality of full-size units equal to 5.0 percent of amount installed.
 2. Exposed Suspension System Components: Furnish quantity of each exposed suspension component equal to 2.0 percent of amount installed.

Part 2 - PRODUCTS

2.1 MANUFACTURERS

A. Ceiling Panels:

1. Armstrong World Industries, Inc; Tectum, Inc.; KMDI or Approved Equal.

2.2. ACOUSTICAL CEILING UNITS

A. Acoustical Panels Type ACT-1:

1. Surface Texture: Fine
2. Composition: Fiberglass
3. Color: White
4. Size: 24inch x 24inch.
5. Edge Profile: Vector for interface with Prelude XL 15/16" Exposed Tee. The suspension system must be leveled to within 1/4" in 10 feet and must be square to within 1/16" in 2 feet.

6. Noise Reduction Coefficient (NRC): ASTM C 423; Classified with UL label on product carton, N/A.
7. Ceiling Attenuation Class (CAC): ASTM C 1414; Classified with UL label on product carton, N/A
8. Emissions Testing: Section 01350 Protocol, < 13.5 ppb of formaldehyde when used under typical conditions required by ASHRAE Standard 62.1-2004, "Ventilation for Acceptable Indoor Air Quality"
9. Flame Spread: ASTM E 1264; Class A (UL)
10. Light Reflectance (LR): ASTM E 1477; White Panel: Light Reflectance: 0.90
11. Dimensional Stability: HumiGuard Plus - Temperature is between 32°F (0° C) and 120°F (49° C). It is not necessary for the area to be enclosed or for HVAC systems to be functioning. All wet work (plastering, concrete, etc) must be complete and dry.
12. Antimicrobial Protection: Inherent - Resists the growth of mold/mildew and bacterial growth.
13. Basis of Design: Optima Vector, 3900 as manufactured by Armstrong World Industries or Approved Equal.
14. Application Consideration: 12 inch x 24 inch products are not intended for a full ceiling installation.

2.3. SUSPENSION SYSTEMS

- A. Components: Main beams and cross tees In accordance with the International Building Code, Section 1621 for Category D, E and F as described in ESR-1308.
 1. Structural Classification: ASTM C 635, Heavy Duty.
 2. Color: White and match the actual color of the selected ceiling tile, unless noted otherwise.
 3. Basis of Design: Prelude XL 15/16" Exposed Tee System as manufactured by Armstrong World Industries or Approved Equal.
- B. Attachment Devices: In accordance with the International Building Code, Section 1621 for Category D, E, and F.
- C. Wire for Hangers and Ties: In accordance with the International Building Code, Section 1621.
- D. Wall Moldings: In accordance with the International Building Code, Section 1621 for Category D, E, and F or method as described in ESR-1308.

1. Nominal 7/8 inch x 7/8 inch hemmed, pre-finished angle molding (7800) (7802) (7803) (780036) (HD7801)
2. Nominal 15/16 inch x 15/16 inch hemmed, pre-finished angle molding (7809)
3. Nominal 15/16 inch x 15/16 inch x 1/4 inch, pre-finished shadow molding (7877)
4. Nominal 15/16 inch x 15/16 inch x 3/8 inch, pre-finished shadow molding (7878)
5. Nominal 15/16 inch x 15/16 inch x 1/2 inch, pre-finished shadow molding (7897)

E. Accessories:

1. Axiom Classic Trim or Approved Equal
2. BERC2 - 2 inch Beam End Retaining Clip or Approved Equal, 0.034 inch thick, hot-dipped galvanized cold-rolled steel per ASTM A568 - used to join main beam or cross tee to wall molding.
3. SJCG - Seismic Joint Clip, 5 inches x 1-1/2 inch, hot-dipped galvanized cold-rolled steel per ASTM A568. The two piece unit is designed to accommodate a seismic separation joint. The clip is compatible with 15/16 inch and 9/16 inch grid systems including Prelude, Suprafine, and Silhouette The SJCG is not suitable for use with Vector panel installations or Approved Equal,
4. SJMR15 - Seismic Joint Clip - Main Beam, 1 inch x 4 inches, commercial quality cold rolled hot dipped galvanized steel per ASTM A568, chemically cleansed or Approved Equal,.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Do not proceed with installation until all wet work such as concrete, terrazzo, plastering and painting has been completed and thoroughly dried out, unless expressly permitted by manufacturer's printed recommendations. (Exception: HumiGuard Max Ceilings)

3.2 PREPARATION

- A. Measure each ceiling area and establish layout of acoustical units to balance border widths at opposite edges of each ceiling. Avoid use of less than half width units at borders, and comply with reflected ceiling plans. Coordinate panel layout with mechanical and electrical fixtures.
- B. Coordination: Furnish layouts for preset inserts, clips, and other ceiling anchors whose installation is specified in other sections.
 1. Furnish concrete inserts and similar devices to other trades for installation well in advance of time needed for coordination of other work.

3.3 INSTALLATION (Category D,E,F)

- A. Install suspension system and panels in accordance with the International Building Code, Section 1621, except as noted in Section 4.4.3.1 of ESR-1308, and with the authorities having jurisdiction.

- B. ESR-1308, Section 4.4.3.1, Alternate Seismic Design Category D,E and F Installation:

Under this installation, the runners must be rated heavy-duty and have a minimum simple span uniform load of 16.35 pounds per lineal foot (238 N/m); maximum ceiling weight permitted is 4.0 pounds per square foot (19.5 kg/m²).

1. The BERC-2 clip is used to secure the main runners and cross runners on two adjacent walls to the structure and the two opposite walls to the perimeter trim, as detailed below. A nominal 7/8-inch (22 mm) wall molding is used in lieu of the 2-inch (51 mm) perimeter supporting closure angle required by Section 9.6.2.6.2.2 (b) of ASCE-7 for Seismic Design Categories D, E and F. Except for the use of the BERC-2 clip and the 7/8-inch (22 mm) wall molding and elimination of spreader bars, installation of the ceiling system must be as prescribed by the applicable code.
 2. The BERC-2 clip is attached to the wall molding by sliding the locking lances over the hem of the vertical leg of the wall molding. Clips installed on the walls where the runners are fixed are attached to the runner by a sheet metal screw through the horizontal slot in the clip into the web of the runner.
 3. Clips installed on the walls where the runners are not fixed to the runner allow the terminal runner end to move 3/4 inch (19.1 mm) in both directions. BERC-2 clips installed in this manner are an acceptable means of preventing runners from spreading in lieu of spacer bars required in CISCA 3-4, which is referenced in ASCE 7, Section 9.6.2.6.2.2, which is referenced in IBC Section 1621.
- C. The SJCG Seismic Separation Joint Clip is to be installed per the manufacturer's instructions, CS-3815.
- D. The SJMR15 Seismic Joint Clip Main Beam is to be installed per the manufacturer's instructions, CS-3955.
- E. For reveal edge panels: Cut and reveal or rabbet edges of ceiling panels at border areas and vertical surfaces.
- F. Install acoustical panels in coordination with suspended system, with edges resting on flanges of main runner and cross tees. Cut and fit panels neatly against abutting surfaces. Support edges by wall moldings.

3.4 ADJUSTING AND CLEANING

- A. Replace damaged and broken panels.

- B. Clean exposed surfaces of acoustical ceilings, including trim, edge moldings, and suspension members. Comply with manufacturer's instructions for cleaning and touch up of minor finish damage.
 - 1. Ceiling Touch-Up Paint, (Item #5760, 8oz. bottles) (Item #5761, quart size cans), "global white" latex paint should be used to hide minor scratches and nicks in the surface and to cover field regularized edges that are exposed to view.
- C. Remove and replace work that cannot be successfully cleaned and repaired to permanently eliminate evidence of damage.

END OF SECTION

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SECTION 096519 - RESILIENT TILE FLOORING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:

- 1. Vinyl composition floor tile.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Shop Drawings: For each type of floor tile. Include floor tile layouts, edges, columns, doorways, enclosing partitions, built-in furniture, cabinets, and cutouts.
 - 1. Show details of special patterns.
- C. Samples for Initial Selection: For each type of floor tile indicated.
- D. Samples for Verification: Full-size units of each color and pattern of floor tile required.

1.4 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For qualified Installer.

1.5 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For each type of floor tile to include in maintenance manuals.

1.6 MATERIALS MAINTENANCE SUBMITTALS

- A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Floor Tile: Furnish 1 box for every 20 boxes or fraction thereof, of each type, color, and pattern of floor tile installed.

1.7 QUALITY ASSURANCE

- A. Installer Qualifications: A qualified installer who employs workers for this Project who are competent in techniques required by manufacturer for floor tile installation indicated.
 1. Engage an installer who employs workers for this Project who are trained by manufacturer for installation techniques required.
- B. Fire-Test-Response Characteristics: As determined by testing identical products according to ASTM E 648 or NFPA 253 by a qualified testing agency.
 1. Critical Radiant Flux Classification: Class I, not less than 0.45 W/sq. cm.
- C. Mockups: Build mockups to verify selections made under sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.
 1. Build mockups for floor tile including resilient base and accessories.
 - a. Size: Minimum 100 sq. ft. (9.3 sq. m) for each type, color, and pattern in locations indicated.

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Store floor tile and installation materials in dry spaces protected from the weather, with ambient temperatures maintained within range recommended by manufacturer, but not less than 50 deg F (10 deg C) or more than 90 deg F (32 deg C). Store floor tiles on flat surfaces.

1.9 PROJECT CONDITIONS

- A. Maintain ambient temperatures within range recommended by manufacturer, but not less than 70 deg F (21 deg C) or more than 95 deg F (35 deg C) in spaces to receive floor tile during the following time periods:
 1. 48 hours before installation.
 2. During installation.
 3. 48 hours after installation.
- B. Until Substantial Completion, maintain ambient temperatures within range recommended by manufacturer, but not less than 55 deg F (13 deg C) or more than 95 deg F (35 deg C).

- C. Close spaces to traffic during floor tile installation.
- D. Close spaces to traffic for 48 hours after floor tile installation.
- E. Install floor tile after other finishing operations, including painting, have been completed.

1.10 WARRANTY

- A. Special Manufacturer's Warranty: Provide manufacturer's standard form in which manufacturer agrees to repair or replace products that fail in materials or workmanship during the following period after substantial completion:
 - 1. Warranty Period: Ten (10) years from substantial completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. FloorScore Compliance: Resilient tile flooring shall comply with requirements of FloorScore Standard.
- B. Low-Emitting Materials: Flooring system shall comply with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers.

2.2 VINYL COMPOSITION FLOOR TILE

- A. Products: Subject to compliance with requirements, provide one of the following:
 - 1. Armstrong World Industries, Inc.
 - 2. Mannington Mills, Inc.;
 - 3. Tarkett, Inc.
- B. Tile Standard: ASTM F 1066, Class 1, solid-color tile
- C. Wearing Surface: Smooth
- D. Thickness: 0.125 inch (3.2 mm)
- E. Size: 12 by 12 inches (305 by 305 mm).

- F. Colors and Patterns: As selected by Commissioner from full range of industry colors.

2.3 INSTALLATION MATERIALS

- A. Trowelable Leveling and Patching Compounds: Latex-modified, portland cement based or blended hydraulic-cement-based formulation provided or approved by manufacturer for applications indicated.
- B. Adhesives: Water-resistant type recommended by manufacturer to suit floor tile and substrate conditions indicated.
 - 1. Adhesives shall comply with the following limits for VOC content when calculated according to 40 CFR 59, Subpart D (EPA Method 24):
 - a. VCT and Asphalt Tile Adhesives: Not more than 50 g/L.
 - 2. Adhesives shall comply with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, with Installer present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.
- B. Verify that finishes of substrates comply with tolerances and other requirements specified in other Sections and that substrates are free of cracks, ridges, depressions, scale, and foreign deposits that might interfere with adhesion of floor tile.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Prepare substrates according to manufacturer's written instructions to ensure adhesion of resilient products.
- B. Concrete Substrates: Prepare according to ASTM F 710.
 - 1. Verify that substrates are dry and free of curing compounds, sealers, and hardeners.

2. Remove substrate coatings and other substances that are incompatible with adhesives and that contain soap, wax, oil, or silicone, using mechanical methods recommended by manufacturer. Do not use solvents.
3. Alkalinity and Adhesion Testing: Perform tests recommended by manufacturer. Proceed with installation only after substrates pass testing.
4. Moisture Testing: Perform tests recommended by manufacturer and as follows. Proceed with installation only after substrates pass testing.
 - a. Perform anhydrous calcium chloride test, ASTM F 1869. Proceed with installation only after substrates have maximum moisture-vapor-emission rate of 3 lb of water/1000 sq. ft. (1.36 kg of water/92.9 sq. m) in 24 hours.
 - b. Perform relative humidity test using in situ probes, ASTM F 2170. Proceed with installation only after substrates have a maximum 75% relative humidity level measurement.
- C. Access Flooring Panels: Remove protective film of oil or other coating using method recommended by access flooring manufacturer.
- D. Fill cracks, holes, and depressions in substrates with trowelable leveling and patching compound and remove bumps and ridges to produce a uniform and smooth substrate.
- E. Do not install floor tiles until they are same temperature as space where they are to be installed.
 1. Move resilient products and installation materials into spaces where they will be installed at least 48 hours in advance of installation.
- F. Sweep and vacuum clean substrates to be covered by resilient products immediately before installation.

3.3 FLOOR TILE INSTALLATION

- A. Comply with manufacturer's written instructions for installing floor tile.
- B. Lay out floor tiles from center marks established with principal walls, discounting minor offsets, so tiles at opposite edges of room are of equal width. Adjust as necessary to avoid using cut widths that equal less than one-half tile at perimeter.
 1. Lay tiles square with room axis.
- C. Match floor tiles for color and pattern by selecting tiles from cartons in the same sequence as manufactured and packaged, if so numbered. Discard broken, cracked, chipped, or deformed tiles.
- D. Scribe, cut, and fit floor tiles to butt neatly and tightly to vertical surfaces and permanent fixtures including built-in furniture, cabinets, pipes, outlets, and door frames.

- E. Extend floor tiles into toe spaces, door reveals, closets, and similar openings. Extend floor tiles to center of door openings.
- F. Maintain reference markers, holes, and openings that are in place or marked for future cutting by repeating on floor tiles as marked on substrates. Use chalk or other nonpermanent, nonstaining marking device.
- G. Install floor tiles on covers for telephone and electrical ducts, building expansion-joint covers, and similar items in finished floor areas. Maintain overall continuity of color and pattern between pieces of tile installed on covers and adjoining tiles. Tightly adhere tile edges to substrates that abut covers and to cover perimeters.
- H. Adhere floor tiles to flooring substrates using a full spread of adhesive applied to substrate to produce a completed installation without open cracks, voids, raising and puckering at joints, telegraphing of adhesive spreader marks, and other surface imperfections.

3.4 CLEANING AND PROTECTION

- A. Comply with manufacturer's written instructions for cleaning and protection of floor tile.
- B. Perform the following operations immediately after completing floor tile installation:
 - 1. Remove adhesive and other blemishes from exposed surfaces.
 - 2. Sweep and vacuum surfaces thoroughly.
 - 3. Damp-mop surfaces to remove marks and soil.
- C. Protect floor tile products from mars, marks, indentations, and other damage from construction operations and placement of equipment and fixtures during remainder of construction period.
- D. Cover floor tile until Substantial Completion.

END OF SECTION 096519

SECTION 101400 - INTERIOR SIGNAGE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.
- B. Refer to Drawings for sign types, sign copy listing, and sign locations.

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Interior die-raised aluminum signage.

1.3 SUBMITTALS

- A. Product Data: Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for each type of sign.
- B. Shop Drawings: Include plans, elevations, and large-scale sections of typical members and other components. Show mounting methods, grounds, mounting heights, layout, spacing, reinforcement, accessories, and installation details.
 - 1. Provide message list for each sign, including large-scale details of wording, lettering, art work, and Braille layout.
- C. Samples for Initial Selection: For each type of sign material indicated that involves color selection.
- D. Samples for Verification: For each type of sign, include the following Samples to verify color selected.
- E. Qualification Data: For Installer.
- F. Maintenance Data: For signage cleaning and maintenance requirements to include in maintenance manuals.
- G. Replacement Instructions: Provide in writing, instructions to City of New York on how to replace name inserts, turn around time required, etc.

1.4 QUALITY ASSURANCE

- A. Source Limitations: Obtain each sign type through one source from a single manufacturer.
- B. Regulatory Requirements: Comply with the Americans with Disabilities Act (ADA) and with code provisions as adopted by authorities having jurisdiction.
- C. Product Options: Drawings indicate size, profiles, and dimensional requirements of signage and are based on the specific system indicated. Refer to DDC General Conditions.

1.5 PROJECT CONDITIONS

- A. Field Measurements: Where sizes of signs are determined by dimensions of surfaces on which they are installed, verify dimensions by field measurement before fabrication and indicate measurements on Shop Drawings.

1.6 COORDINATION

- A. For signs supported by or anchored to permanent construction, advise installers of anchorage devices about specific requirements for placement of anchorage devices and similar items to be used for attaching signs.

1. For signs supported by or anchored to permanent construction, furnish templates for installation of anchorage devices.

1.7 WARRANTY

- A. Special Manufacturer's Warranty: Provide manufacturer's standard form in which manufacturer agrees to repair or replace products that fail in materials or workmanship during the following period after substantial completion:

1. Warranty Period: Three (3) years from substantial completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. In other Part 2 articles where titles below introduce lists, the following requirements apply for product selection:

1. Basis-of-Design Product: The design for each sign is based on the product named. Subject to compliance with requirements, provide either the named product or a comparable product by one of the other manufacturers specified.

2.2 INTERIOR DIE-RAISED SIGNAGE

- A. Manufacturer:

1. Subject to compliance with requirements, provide signs as manufactured by The Supersine Company, Division of Stamprite Supersine, Lansing Michigan 800-328-1988 or approved equal.

- B. Sign Construction:

1. Plate material shall be .102" 3003 alloy H-14 Aluminum Sheet. The plate shall have smooth, even, level surfaces, constructed to remain flat under installed conditions within tolerance of plus or minus 1/16" measured diagonally.

2. Signs shall be mechanically fabricated with smoothly Finished square cut edges.

3. Corners shall be square as indicated on Sign Type Drawings.

4. Size: 8 x 8 inches (203 x 303mm)
5. All characters, Braille, and graphics are to be raised 1/32" (0.032") by a die-raised process. The character shoulder of the style indicated on the Sign Type Drawings shall be precisely formed, with sharp, well-defined edges, not rolled or embossed.
6. The raised characters and graphics shall be masked to allow the background and Braille to be painted with smooth, acrylic enamel Finish. The character and graphic portions of the signs shall be anodized, with a satin finish.
7. Back-shields (if required) at all wall mounted locations shall be cut from .102" H-14 Aluminum, and painted.

C. Colors:

1. Plate background and Braille: Custom color to match Commissioner's sample.
2. Raised characters and graphics:
 - a. Character Color: Dark Gray (to match Commissioner's sample.)
 - b. Height: 1 inch
 - c. Edges: Square
 - d. Character Font and Case: Helvetica, upper case
3. Aluminum and acrylic back-shields: Color to match sign background.

2.3 ACCESSORIES

- A. Concealed Screws: Stainless steel, galvanized steel, chrome plated, or other non-corroding metal.
- B. Tape Adhesive: Double sided tape, permanent adhesive.

PART 3 – EXECUTION

3.1 INSTALLATION

- A. General: Locate sign units and accessories where indicated on Sign Location Drawings, using mounting methods of the type described in Sign Type Drawings, and in compliance with the manufacturers' instructions.
 1. Examine areas to receive signage; notify Building Contractor/Commissioner in writing of unacceptable substrate. Beginning work indicates acceptance of substrate.
 2. Install signs level, plumb, and at the height indicated, with sign surfaces free from distortion or other defects in appearance.
 3. Mount directly on glass with double face foam tape, reinforce with clear silicone adhesive. Install back shield on opposite side of glass

4. Mount wall signs by mechanically fastening back-shield to wall: Mount sign to back-shield with double face foam tape and reinforce with clear silicone adhesive.

3.2 CLEANING AND PROTECTION

- A. At completion of the installation, clean soiled sign surfaces in accordance with manufacturer's instructions. Protect units from damage until acceptance by the City of New York.

END OF SECTION 101400

SECTION 102113.17 - PHENOLIC CORE TOILET COMPARTMENTS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Phenolic core compartment partitions for following applications:
 - a. Toilet enclosures.
 - b. Privacy screens.
 - c. Urinal screens.

1.2 REFERENCES

A. ASTM International (ASTM):

1. ASTM A 240 - Standard Specification for Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels and for General Applications.
2. ASTM A 666 - Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar.
3. ASTM A 743/A 743M - Standard Specification for Castings, Iron-Chromium, Iron-Chromium-Nickel, Corrosion Resistant, for General Application.
4. ASTM B 86 - Standard Specification for Zinc and Zinc-Aluminum (ZA) Alloy Foundry and Die Castings.
5. ASTM B 221 - Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes.
6. ASTM E 84 - Standard Test Method for Surface Burning Characteristics of Building Materials.

B. International Code Council (ICC)/American National Standards Institute (ANSI):

1. ICC/ANSI A117.1 - Accessible and Usable Buildings and Facilities, as applicable to toilet compartments designated as accessible.

C. United States Department of Justice:

1. ADA - Americans with Disabilities Act, Excerpt from 28 CFR Part 36 - ADA Standards for Accessible Design.

1.3 ACTION SUBMITTALS

- A. Product Data: Manufacturer's data sheets for each type of product indicated. Include fabrication details, description of materials and finishes.
 - 1. Product Test Reports: When requested by Commissioner, submit documentation by qualified independent testing agency indicating compliance of products with requirements.
- B. Shop Drawings: Include overall product dimensions, floor plan, elevations, sections, details, and attachments to other work. Include choice of options with details.
- C. Samples for Selection: Furnish samples of manufacturer's full range of colors for initial selection.
- D. Samples for Verification: Furnish physical sample of material in selected color.
 - 1. Size: 2 by 2 inch (52 by 52 mm) minimum, in type of finish specified.

1.4 INFORMATIONAL SUBMITTALS

- A. Warranty: Sample of special warranty.

1.5 CLOSEOUT SUBMITTALS

- A. Maintenance and cleaning instructions.

1.6 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Approved manufacturer listed in this section, with minimum 3 years experience in the manufacture of toilet compartments.
- B. Installers Qualifications: Experienced Installer regularly engaged in installation of toilet compartments for minimum 3 years.
- C. Source Limitations: Obtain toilet compartment components and accessories from single manufacturer.
- D. Accessibility Requirements: Comply with requirements of ICC/ANSI 117.1, and with requirements of authorities having jurisdiction.
- E. Surface-Burning Characteristics: As determined by testing identical products according to ASTM E 84 by qualified testing agency. Identify products with appropriate markings of applicable testing agency.

1. Flame-Spread Index: 30.
2. Smoke-Developed Index: 110.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Do not deliver toilet compartments to site until building is enclosed and HVAC systems are in operation.
 1. Deliver toilet compartments in manufacturer's original packaging.
 2. Store in an upright condition.

1.8 WARRANTY

- A. Special Manufacturer's Warranty: Provide manufacturer's standard form in which manufacturer agrees to repair or replace products that fail in materials or workmanship during the following period after substantial completion:
 1. Phenolic Core Toilet Partitions: Against delamination: 3 years.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturer: Provide products of Bradley Corporation; Knickerbocker Partition Corp; Hadrian Mfg., Inc or approved equal.

2.2 MATERIALS

- A. Phenolic Core: Compressed cellulose impregnated with phenolic resins. Provide smooth material, without creases or ripples.
- B. Zinc Aluminum Magnesium and Copper Alloy (Zamac): ASTM B 86.
- C. Stainless Steel Sheet: ASTM A 240 or A 666, 300 series.
- D. Stainless Steel Castings: ASTM A 743/A 743M.
- E. Aluminum: ASTM B 221.

2.3 PHENOLIC CORE TOILET COMPARTMENTS

- A. Toilet Compartment Type:

1. Floor anchored.
- B. Urinal Screen Style:
 1. Wall hung with wing bracket:
 - a. Provide chrome plated wing bracket for mounting to wall.
- C. Door, Panel, and Pilaster Construction, General: Form edges with 15 degree bevel without crown molding. Finish edges smooth.
 1. Provide exposed surfaces free of pitting, visible seams and fabrication marks, stains, telegraphing of core material, or other imperfections.
 2. Core Material: Manufacturer's standard solid resin core of thickness required to provide finished thickness for doors, panels and pilasters.
- D. Door Construction: 3/4 inch (19 mm) thick.
- E. Panel Construction: 1/2 inch (13 mm) thick.
- F. Pilaster Construction: 3/4 inch (19 mm) thick.
 1. Provide pilaster with mechanically fastened leveling bar reinforcement with zinc-plated jack bolt for leveling.
- G. Headrail: Extruded anodized aluminum headrail with anti-grip profile. Provide clamps for attachment to pilaster and stainless steel brackets to secure to wall.
- H. Shoes: 4 inches (102 mm) high minimum, Type 304 stainless steel with No. 4 satin brushed finish. Provide concealed retainer clips to attach to pilaster.
- I. Urinal-Screen Construction: Matching toilet compartment panel construction
- J. Brackets (Fittings):
 1. Stirrup Type: Ear or U-brackets; stainless steel.
 2. Full-Height (Continuous) Type: Manufacturer's standard design; stainless steel.
- K. Phenolic Core Finish: Manufacturer's standard impregnated, with one color in each room.
 1. Color: As selected by Commissioner from manufacturer's full line.

2.4 HARDWARE

- A. Hardware, Heavy Duty: Manufacturer's heavy-duty stainless steel castings, including stainless steel tamper-resistant fasteners:

1. Hinges: Self-closing surface mounted, through bolted, with gravity cams, adjustable to hold doors open at any angle up to 90 degrees, with emergency access by lifting door. Mount with stainless steel through-bolts.
2. Latch and Keeper: Surface-mounted slide latch with flat rubber-faced combination door strike and keeper, with provision for emergency access, meeting requirements for accessibility at accessible compartments.
3. Coat Hook: Combination hook and rubber-tipped stop, sized to prevent door from hitting compartment-mounted accessories. Provide wall bumper where door abuts wall. Provide formed L-shaped hook without stop at outswing doors. Mount with stainless steel through-bolts.
4. Door Pull: Standard unit on outside of inswing doors. Provide pulls on both sides of outswing doors.

2.5 FABRICATION

- A. Overhead-Braced Units: Provide manufacturer's standard corrosion-resistant supports, leveling mechanism, and anchors at pilasters to suit floor conditions. Provide shoes at pilasters to conceal supports and leveling mechanism.
- B. Floor-Anchored Units: Provide manufacturer's standard corrosion-resistant anchoring assemblies with leveling adjustment nuts at pilasters for structural connection to floor. Provide shoes at pilasters to conceal anchorage.
- C. Door Size and Swings: Unless otherwise indicated, provide 26-inch- (660-mm-) wide, in-swinging doors for standard toilet compartments and 36-inch- (914-mm-) wide, out-swinging doors with a minimum 32-inch- (813-mm-) wide clear opening for compartments designated as accessible.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine work area to verify that measurements, substrates, supports, and environmental conditions are in accordance with manufacturer's requirements to allow installation.
 1. Proceed with installation once conditions meet manufacturer's requirements.

3.2 INSTALLATION

- A. General: Comply with manufacturer's written installation instructions. Install units rigid, straight, level, and plumb. Secure units in position with manufacturer's recommended anchoring devices.

- B. Install toilet partitions and screens in spaces with operating, temperature controlled HVAC systems. Shield partitions and screens from direct sunlight.
- C. Clearances: Install with clearances indicated on Drawings. Where clearances are not indicated, allow maximum 1/2 inch (13 mm) between pilasters and panels, and 1 inch (25 mm) between panels and walls.
- D. Stirrup Brackets: Secure panels to walls and to pilasters with no fewer than three brackets attached at midpoint and near top and bottom of panel. Locate wall brackets so holes for wall anchors occur in masonry or tile joints. Align brackets at pilasters with brackets at walls.

3.3 ADJUSTING

- A. Hardware Adjustment: Adjust and lubricate hardware according to hardware manufacturer's written instructions for proper operation. Set hinges on in-swinging doors to hold doors open approximately 15 degrees from closed position when unlatched. Set hinges on out-swinging doors to return doors to fully closed position.

3.4 FINAL CLEANING

- A. Remove packaging and construction debris and legally dispose of off-site.
- B. Clean partition and screen surfaces with materials and cleansers in accordance with manufacturer's recommendations.

END OF SECTION 102113.17

SECTION 102813.13 - COMMERCIAL TOILET ACCESSORIES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes

1. Public-use washroom accessories.
2. Public-use shower room accessories.
3. Childcare accessories.
4. Custodial accessories.

1.2 REFERENCES

A. American National Standards Institute (ANSI):

1. ANSI A 117.1 - Accessible and Usable Buildings and Facilities.

B. ASTM International (ASTM):

1. ASTM A 653/A 653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
2. ASTM A 666 - Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar.
3. ASTM A 1008/A 1008M - Standard Specification for Steel, Sheet, Cold-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, Solution Hardened, and Bake Hardenable.
4. ASTM B 456 - Standard Specification for Electrodeposited Coatings of Copper Plus Nickel Plus Chromium and Nickel Plus Chromium.
5. ASTM C 1503 - Standard Specification for Silvered Flat Glass Mirror.
6. ASTM F 446 - Standard Consumer Safety Specification for Grab Bars and Accessories Installed in the Bathing Area.

C. US Federal Government:

1. U.S. Architectural & Transportation Barriers Compliance Board. Americans with Disability Act (ADA) and Architectural Barriers Act (ABA) Accessibility Guidelines for Buildings and Facilities.

1.3 ACTION SUBMITTALS

A. Product Data: For each product:

1. Manufacturer's product data sheets indicating operating characteristics, materials and finishes. Mark each sheet with product designation.
2. Mounting requirements and rough-in dimensions.

1.4 INFORMATION SUBMITTALS

- A. Sample warranty.
- B. Operation, care and cleaning instructions.

1.5 MAINTENANCE SUBMITTALS

- A. Furnish indicated spare parts that are packaged with identifying labels listing associated products.
- B. Operation and Maintenance data.

1.6 QUALITY ASSURANCE

- A. Source Limitations: For products listed together in the same Part 2 articles, obtain products from single source from single manufacturer.
- B. Manufacturer Qualifications: Approved manufacturer listed in this section, with minimum 3 years experience in the manufacture of product types. Manufacturers seeking approval must submit the following:
 1. Product data, including test data from qualified independent testing agency indicating compliance with requirements.
 2. Samples of each component of product specified.
 3. List of successful installations of similar products available for evaluation by Commissioner.
- C. Accessibility Requirements: Comply with requirements of ADA/ABA and with requirements of authorities having jurisdiction.

1.7 WARRANTY

- A. Special Mirror Warranty: Manufacturer's standard form in which manufacturer agrees to replace mirrors that develop visible silver spoilage or frame corrosion defects within specified warranty period.
 1. Warranty Period: 15 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturer: Bradley Corporation; Kimberly Clark, Inc.; Brondell or approved equal.

2.2 MATERIALS

- A. Stainless Steel: ASTM A 666 Type 304 (18-8); satin finish exposed surfaces unless otherwise indicated.
- B. Steel Sheet: ASTM A 1008/A 1008M, Designation CS, manufacturer's standard thickness.
- C. Galvanized-Steel Sheet: ASTM A 653/A 653M, with G60 hot-dip zinc coating, manufacturer's standard thickness.
- D. Galvanized-Steel Mounting Devices: ASTM A 153/A 153M, hot-dip galvanized after fabrication.
- E. Fasteners:
 - 1. Exposed: Screws, bolts, and other devices of same material as accessory unit and tamper-and-theft resistant.
 - 2. Concealed: Galvanized steel.
- F. Chrome Plating: ASTM B 456, Service Condition Number SC 2, moderate service.
- G. Mirrors: ASTM C 1503, Mirror Glazing Quality, clear-glass mirrors, nominal 6.0 mm thick.
- H. ABS Plastic: Acrylonitrile-butadiene-styrene resin formulation.

2.3 PUBLIC-USE WASHROOM ACCESSORIES

- A. Toilet Tissue Roll Dispenser, Surface Mount TTDS:
 - 1. Basis of Design: Bradley Corp., Model 5402.
 - 2. Application: At each water closet, unless otherwise indicated.
 - 3. Capacity: Double roll dispenser.
 - 4. Finish and Base Material: Satin-finish stainless steel with polymer spindles.
 - 5. Roll Access: Enclosed.
 - 6. Mounting: Surface-mounted.

B. Combination Paper Towel (Folded) Dispenser/Waste Receptacle PTFW:

1. Basis of Design: Bradley Corp., Model 2298.
2. Application: Where indicated.
3. Materials: Stainless steel, rolled at exposed edges.
4. Finish and Base Material: Satin stainless steel.
5. Mounting: Recessed.
6. Towel Capacity by Types:
 - a. 475 multi-fold towels.
 - b. 350 C-fold towels.
7. Towel Delivery Method: Bottom pull.
8. Waste Receptacle:
 - a. 1.7 gallons (6.4 liters) Bradley Deck-Mounted Liquid Soap Dispensers:

C. Liquid-Soap Dispenser SD:

1. Basis of Design: Bradley Corp., Model 6324.
2. Application: Where indicated.
3. Description: Designed for dispensing soap in liquid form from under-counter reservoir.
4. Materials: Stainless steel plunger and spout, heavy chrome escutcheon. Plastic globe.
5. Operation: Sensor operated. Manual pump.
6. Mounting: Vertically oriented, surface mounted.
7. Spout: 4 inch (102 mm).

D. Fixed Grab Bars

1. Basis of Design, Fixed Grab Bar: Bradley Corp., Model 812 series 1-1/2 inch (38 mm) diameter.
2. Application: Where indicated.
3. Mounting: Flanges with concealed fasteners.
4. Material: Stainless steel, 0.05 inch (1.27 mm) thick.
5. Length: As designated. As indicated.
6. Finish: Safety grip.

E. Sanitary Product Disposal Unit SDU:

1. Basis of Design: Bradley Corp., 4722-15.
2. Application: Where indicated.
3. Mounting: [Surface] mounted.
4. Receptacle: Removable, with vandal-proof lock, capacity 1.5 gal (5.7 L).
5. Finish: Stainless steel satin.

F. Seat-Cover Dispenser SCD:

1. Basis of Design: Bradley Corp., 583.
2. Application: Where indicated.
3. Mounting: Surface mounted.
4. Capacity: 500 single fold or half-fold covers.
5. Finish: Stainless steel satin.
6. Mounting: Surface mounted on wall or partition , fold-down.
7. Material: Tempered glass. Stainless steel. Die cast zinc.
8. Finish: Stainless steel satin. Chrome plated. Tempered glass.

G. Mirror Unit MG:

1. Basis of Design: Bradley Corp., Model 8785.
2. Size and Application: Where indicated. Size as Indicated in drawings.
3. Frame: Stainless steel channel, mitered and welded, with tamper- and theft-resistant installation.

H. Electric Hand-dryer:

1. Basis of Design: Bradley Corp., Model 2902-287300.
2. Application: Where indicated.
3. Materials: Stainless steel. Mop-broom handle holders include rubber cams.
4. Finish: Satin stainless steel; satin finish
5. Mounting: Surface mounted.

2.4 FABRICATION

- A. General: Fabricate units with tight seams and joints, and exposed edges rolled. Hang doors and access panels with full-length, continuous hinges. Equip units for concealed anchorage and with corrosion-resistant backing plates.
- B. Keys: Provide universal keys for internal access to accessories for servicing and resupplying. Provide minimum of six keys to the Commissioner.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Assemble fixtures and associated fittings and trim in accordance with manufacturer's instructions.
- B. Install supports attached to building structure for equipment requiring supports.
- C. Grab Bars: Install grab bars to withstand downward force of not less than 250 lbf (1112 N) per ASTM F 446.

- D. Install equipment level, plumb, and firmly in place in accordance with manufacturer's rough-in drawings.

3.2 CLEANING AND PROTECTION

- A. Repair or replace defective work, including damaged equipment and components.
- B. Clean unit surfaces, and leave in ready-to-use condition.
- C. Turn over keys, tools, maintenance instructions, and maintenance stock to City of New York.

3.3 TESTING AND ADJUSTING

- A. Test each piece of equipment provided with moving parts to assure proper operation, freedom of movement, and alignment. Install new batteries in battery-powered items.
- B. Repair or replace malfunctioning equipment, or equipment with parts that bind or are misaligned.

END OF SECTION 102813.13

SECTION 123623.13 - PLASTIC-LAMINATE-CLAD COUNTERTOPS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes plastic-laminate countertops.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product including high-pressure decorative laminate, adhesive for bonding plastic laminate and fire-retardant-treated materials.
 - 1. Include data for fire-retardant treatment from chemical-treatment manufacturer and certification by treating plant that treated materials comply with requirements.
- B. Shop Drawings: Show location of each item, dimensioned plans and elevations, large-scale details, attachment devices, and other components.
 - 1. Show locations and sizes of cutouts and holes for plumbing fixtures faucets soap dispensers, and other items installed in plastic-laminate countertops.
 - 2. Apply WI Certified Compliance Program label to Shop Drawings.
 - 3. Apply AWI Quality Certification Program label to Shop Drawings.
- C. Samples for Initial Selection:
 - 1. Plastic laminates.
- D. Samples for Verification:
 - 1. Plastic laminates, 12 by 12 inches (300 by 300 mm).

1.4 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For Installer.
- B. Product Certificates: For the following:
 - 1. High-pressure decorative laminate.
 - 2. Chemical-resistant, high-pressure decorative laminate.
 - 3. Adhesives.

- C. Woodwork Quality Standard Compliance Certificates: AWI Quality Certification Program certificates, WI Certified Compliance Program certificates.
- D. Evaluation Reports: For fire-retardant-treated materials, from ICC-ES.

1.5 QUALITY ASSURANCE

- A. Fabricator Qualifications: Shop that employs skilled workers who custom fabricate products similar to those required for this Project and whose products have a record of successful in-service performance. Shop is a certified participant in AWI's Quality Certification Program. Shop is a licensee of WI's Certified Compliance Program.
- B. Installer Qualifications: Fabricator of products, Certified participant in AWI's Quality Certification Program, Licensee of WI's Certified Compliance Program.
- C. Testing Agency Qualifications: For testing agency providing classification marking for fire-retardant-treated material, an inspection agency acceptable to authorities having jurisdiction that periodically performs inspections to verify that the material bearing the classification marking is representative of the material tested.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Do not deliver countertops until painting and similar operations that could damage countertops have been completed in installation areas. If countertops must be stored in other than installation areas, store only in areas where environmental conditions comply with requirements specified in "Field Conditions" Article.

1.7 FIELD CONDITIONS

- A. Environmental Limitations: Do not deliver or install countertops until building is enclosed, wet work is complete, and HVAC system is operating and maintaining temperature and relative humidity at occupancy levels during the remainder of the construction period.
- B. Environmental Limitations: Do not deliver or install countertops until building is enclosed, wet work is complete, and HVAC system is operating and maintaining temperature between 60 and 90 deg F (16 and 32 deg C) and relative humidity between 25 and 55 percent during the remainder of the construction period.
- C. Field Measurements: Where countertops are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication, and indicate measurements on Shop Drawings. Coordinate fabrication schedule with construction progress to avoid delaying the Work.
- D. Established Dimensions: Where countertops are indicated to fit to other construction, establish dimensions for areas where countertops are to fit. Provide allowance for trimming at site, and coordinate construction to ensure that actual dimensions correspond to established dimensions.

1.8 WARRANTY

- A. Special Manufacturer's Warranty: Provide manufacturer's standard form in which manufacturer agrees to repair or replace products that fail in materials or workmanship during the following period after substantial completion:

1. Warranty Period: Three (3) years from substantial completion.

PART 2 - PRODUCTS

2.1 PLASTIC-LAMINATE COUNTERTOPS

- A. Quality Standard: Unless otherwise indicated, comply with the "Architectural Woodwork Standards" for grades indicated for construction, installation, and other requirements.

1. Provide labels and certificates from AWI and / or WI certification program indicating that countertops, including installation, comply with requirements of grades specified.
2. The Contract Documents contain selections chosen from options in the quality standard and additional requirements beyond those of the quality standard. Comply with those selections and requirements in addition to the quality standard.

- B. Grade: Premium.

- C. High-Pressure Decorative Laminate: NEMA LD 3, Grade HGS.

1. Manufacturers: Subject to compliance with requirements, provide products by the following:

- a. Formica Corporation.
- b. Lamin-Art, Inc.
- c. Wilsonart International; Div. of Premark International, Inc.

- D. Colors, Patterns, and Finishes: Provide materials and products that result in colors and textures of exposed laminate surfaces complying with the following requirements:

1. As indicated by manufacturer's designations.
2. Match Commissioner's sample.
3. As selected by Commissioner from manufacturer's full range in the following categories:
 - a. Solid colors, matte or suede finish.
 - b. Solid colors with core same color as surface matte or suede finish.
4. Grain Direction: Parallel to cabinet fronts.

- E. Edge Treatment: Same as laminate cladding on horizontal surfaces.
- F. Core Material: Exterior-grade plywood.
- G. Core Material at Sinks: exterior-grade plywood.
- H. Core Thickness: 3/4 inch (19 mm); 1-1/8 inch (29 mm).
 - 1. Build up countertop thickness to 1-1/2 inches (38 mm) at front, back, and ends with additional layers of core material laminated to top.
- I. Backer Sheet: Provide plastic-laminate backer sheet, NEMA LD 3, Grade BKL, on underside of countertop substrate.
- J. Paper Backing: Provide paper backing on underside of countertop substrate.

2.2 WOOD MATERIALS

- A. Wood Products: Provide materials that comply with requirements of referenced quality standard unless otherwise indicated.
 - 1. Wood Moisture Content: 5 to 10 percent.

2.3 FIRE-RETARDANT-TREATED MATERIALS

- A. Fire-Retardant-Treated Materials, General: Where fire-retardant-treated materials are indicated, use materials complying with requirements in this article that are acceptable to authorities having jurisdiction and with fire-test-response characteristics specified as determined by testing identical products per test method indicated by a qualified testing agency.
 - 1. Use treated materials that comply with requirements of referenced woodworking standard. Do not use materials that are warped, discolored, or otherwise defective.
 - 2. Use fire-retardant-treatment formulations that do not bleed through or otherwise adversely affect finishes. Do not use colorants to distinguish treated materials from untreated materials.
 - 3. Identify fire-retardant-treated materials with appropriate classification marking of qualified testing agency in the form of removable paper label or imprint on surfaces that will be concealed from view after installation.
- B. Fire-Retardant-Treated Lumber and Plywood: Products with a flame-spread index of 25 or less when tested according to ASTM E 84, with no evidence of significant progressive combustion when the test is extended an additional 20 minutes, and with the flame front not extending more than 10.5 feet (3.2 m) beyond the centerline of the burners at any time during the test.
 - 1. Kiln dry lumber and plywood after treatment to a maximum moisture content of 19 and 15 percent, respectively.

2. For items indicated to receive a stained or natural finish, use organic resin chemical formulation.
3. Mill lumber after treatment within limits set for wood removal that do not affect listed fire-test-response characteristics, using a woodworking shop certified by testing and inspecting agency.
4. Mill lumber before treatment and implement special procedures during treatment and drying processes that prevent lumber from warping and developing discolorations from drying sticks or other causes, marring, and other defects affecting appearance of treated woodwork.

2.4 MISCELLANEOUS MATERIALS

- A. Adhesives: Do not use adhesives that contain urea formaldehyde.
- B. Adhesives: Use adhesives that meet the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."
- C. Adhesive for Bonding Plastic Laminate: Chemical resistant waterproof adhesive as recommended by manufacturer of plastic laminate.
 1. Adhesive for Bonding Edges: adhesive specified above for faces.
- D. VOC Limits for Installation Adhesives and Sealants: Use products that comply with the following limits for VOC content when calculated according to 40 CFR 59, Subpart D (EPA Method 24):
 1. Wood Glues: 30 g/L.
 2. Multipurpose Construction Adhesives: 70 g/L.
 3. Structural Wood Member Adhesive: 140 g/L.
 4. Architectural Sealants: 250 g/L.

2.5 FABRICATION

- A. Sand fire-retardant-treated wood lightly to remove raised grain on exposed surfaces before fabrication.
- B. Fabricate countertops to dimensions, profiles, and details indicated. Provide front and end overhang of 1 inch (25 mm) over base cabinets. Ease edges to radius indicated for the following:
 1. Solid-Wood (Lumber) Members: 1/16 inch (1.5 mm) unless otherwise indicated.
- C. Complete fabrication, including assembly, to maximum extent possible before shipment to Project site. Disassemble components only as necessary for shipment and installation. Where necessary for fitting at site, provide ample allowance for scribing, trimming, and fitting.

1. Notify Commissioner seven days in advance of the dates and times woodwork fabrication will be complete.
 2. Trial fit assemblies at fabrication shop that cannot be shipped completely assembled. Install dowels, screws, bolted connectors, and other fastening devices that can be removed after trial fitting. Verify that various parts fit as intended and check measurements of assemblies against field measurements before disassembling for shipment.
- D. Shop cut openings to maximum extent possible to receive appliances, plumbing fixtures, electrical work, and similar items. Locate openings accurately and use templates or roughing-in diagrams to produce accurately sized and shaped openings. Sand edges of cutouts to remove splinters and burrs.
1. Seal edges of openings in countertops with a coat of varnish.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Before installation, condition countertops to average prevailing humidity conditions in installation areas.
- B. Before installing countertops, examine shop-fabricated work for completion and complete work as required, including removal of packing and backpriming.

3.2 INSTALLATION

- A. Grade: Install countertops to comply with same grade as item to be installed.
- B. Assemble countertops and complete fabrication at Project site to the extent that it was not completed in the shop.
 1. Provide cutouts for appliances, plumbing fixtures, electrical work, and similar items.
 2. Seal edges of cutouts by saturating with varnish.
- C. Field Jointing: Where possible, make in the same manner as shop jointing, using dowels, splines, adhesives, and fasteners recommended by manufacturer. Prepare edges to be joined in shop so Project-site processing of top and edge surfaces is not required. Locate field joints where shown on Shop Drawings.
 1. Secure field joints in plastic-laminate countertops with concealed clamping devices located within 6 inches (150 mm) of front and back edges and at intervals not exceeding 24 inches (600 mm). Tighten according to manufacturer's written instructions to exert a constant, heavy-clamping pressure at joints.
- D. Install countertops level, plumb, true, and straight. Shim as required with concealed shims. Install level and plumb to a tolerance of 1/8 inch in 96 inches (3 mm in 2400 mm).

- E. Scribe and cut countertops to fit adjoining work, refinish cut surfaces, and repair damaged finish at cuts.
- F. Fire-Retardant-Treated Wood: Handle, store, and install fire-retardant-treated wood to comply with chemical treatment manufacturer's written instructions, including those for adhesives used to install woodwork.
- G. Countertops: Anchor securely by screwing through corner blocks of base cabinets or other supports into underside of countertop.
 - 1. Install countertops with no more than 1/8 inch in 96-inch (3 mm in 2400-mm) sag, bow, or other variation from a straight line.

3.3 ADJUSTING AND CLEANING

- A. Repair damaged and defective countertops, where possible, to eliminate functional and visual defects; where not possible to repair, replace woodwork. Adjust joinery for uniform appearance.
- B. Clean countertops on exposed and semiexposed surfaces. Touch up shop-applied finishes to restore damaged or soiled areas.

END OF SECTION 123623.13

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SECTION 220500 - COMMON WORK RESULTS FOR PLUMBING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Contract Documents: The work of the section with the Contract Documents, including the General Conditions, the Supplementary Conditions and Division 01 - General Requirements.

1.2 SUMMARY

- A. General: Provide all plant, labor, tools, appliances, equipment, materials and services required for the work indicated on the drawings and specified in this section.
- B. Work Included: The work includes, but is not necessarily limited to, the following:
 - 1. Soil, waste, storm, leader, vent and drainage systems
 - 2. Hot, hot circulation and cold water systems with complete connections to all plumbing fixtures and equipment requiring water connections.
 - 3. Water connections to domestic hot water heaters, appurtenances, piping, and controls.
 - 4. Plumbing fixtures and accessories and installation of toilet accessories.
 - 5. Motor starters and other control devices and control wiring associated with the plumbing equipment.
 - 6. Waste and water connections for HVAC equipment.
 - 7. Drains, flashings, specialties and equipment supports.
 - 8. Roof drains, area drains and other drains.
 - 9. Cleaning and testing.
 - 10. Hook up of temporary water.
 - 11. Air vents, escutcheons, specialties and appurtenances.
 - 12. Insulation for piping and equipment.

13. Identification and color coding of all piping.
 14. Sleeves for future piping.
 15. All temporary connections for storm and sanitary drainage, vent, hot and cold water, hot water circulating and gas systems.
- C. Related Work: The following related items are specified in other sections of the specifications:
1. Conduits, power wiring and electrical connections will be provided under Electrical Section in accordance with Schematic Electric Drawings provided by this Contractor.
 2. Patching of cast in place concrete boxed out openings.
 3. All concrete foundations and bases required for plumbing equipment. General Contractor shall provide layout and details of their pertinent equipment for bases.
 4. The General Contractor will mount all starters furnished by this Contractor, except starters specified to be factory-mounted and wired as part of the equipment, and will do all wiring necessary to supply power to electric motors and remote operating valves furnished by this Contractor, including connections from the disconnect switches and starters to the motors.
 5. Toilet room accessories.
 6. Access doors.
 7. Electrical power wiring.
 8. Drainage piping from HVAC equipment to and spilling over floor drain, mop sink, sump or roof, except as noted.
 9. Temporary toilets and water supply.
 10. Sheet metal roof gutters and leaders.
 11. Finish painting.

1.3 QUALITY ASSURANCE

- A. The Specifications and the accompanying drawings are intended to secure the provisions of all material, labor, equipment, appliances, and services necessary to install complete, tested, and ready for operating the Systems in accordance with the Specifications and Drawings. All systems shall be complete with all necessary appurtenances and minor auxiliaries, including offsets to clear interferences and supports which are not shown but are needed to make each

system complete in every respect. All work described in the Specifications and not shown on the Drawings, or vice versa, shall be furnished in complete working order. If mention has been omitted of any item of work or material, necessary for completion of the system, then such items must be and hereby are included.

- B. Sanitary, storm water, gas, and other systems riser diagrams, as well as schematic diagrams (when indicated), generally indicate connections to be used for various systems and equipment. Systems routing, height, and invert elevations shall be as required for the actual systems installed on this Project. Provide all work shown on diagrams whether or not it is duplicated on the plans.
- C. The Drawings show the arrangement of all piping. Should job conditions necessitate rearrangement of same, this Contractor shall prepare and submit the proposed rearrangement to the General Contractor and Commissioner for approval before proceeding with the work.
- D. Everything necessary for the completion and successful operation of the work, whether or not herein definitely specified or indicated on the Drawings, shall be furnished and installed as if so specified or so indicated.
- E. This Contractor shall, before installing any of his work, see that it does not interfere with clearance required for finished columns, beams, partitions, walls, etc., as shown on the Architectural Drawings. If it cannot be followed, he shall call this to the attention of the General Contractor and Commissioner before proceeding with the work.
- F. The complete system of plumbing and drainage shall be so installed as to secure free, noiseless operation, proper and continuous service to the complete satisfaction of City of New York and local authorities having jurisdiction.
- G. This Contractor shall ascertain that all his equipment such as valves, traps, cleanouts and other apparatus as may be necessary to be reached from time to time for operation and maintenance is made easily accessible.
- H. Standards & Codes:
 - 1. New York City Code and National Plumbing Code.
 - 2. National Fire Protection Association. All Applicable Sections.
 - 3. American Gas Association (AGA)
 - 4. State of NY Dept. of Health, New York State Code
 - 5. Local Gas Utility Rules and Regulations
 - 6. Local Municipal Rules and Regulations
 - 7. Local Water Company Rules and Regulations
 - 8. Other State and Local Authorities having Jurisdiction
- I. Manufacturer's Instructions: In addition to the requirements of these Specifications, comply with the manufacturer's instructions and recommendations for all phases of the work.

1.4 SUBMITTALS

- A. Submit shop drawing in accordance with requirements of DDC General Conditions. In addition, comply with B. and C. below.
- B. The Plumbing Subcontractor will submit all shop drawings in the scale as directed by the General Contractor to facilitate coordination with the shop drawings of other trades. Submission of shop drawings shall be made in ample time before the scheduled installation to allow comments by the Commissioner and General Contractor. Any equipment or installation ordered prior to final approval may be deemed unacceptable. Approval of the shop drawings is only an aid to the Plumbing Subcontractor and does not relieve, in any way, this Plumbing Subcontractor of any of its responsibilities and obligations under this Contract.
- C. This Plumbing Subcontractor shall submit shop drawings and/or descriptive literature of all work and equipment including but not limited to the following items for approval:
 - 1. All inside, overhead and, underground and exterior drainage systems.
 - 2. Floor drains, roof drains, area drains, cleanouts, pit frames and covers.
 - 3. Valves, access doors, wall hydrants, hot water heaters and accessories
 - 4. Plumbing fixtures and supports, flush valves and fixture trim.
 - 5. Circulating pumps required for plumbing work.
 - 6. Pumps required for plumbing work with pump curves.
 - 7. Motors, starters, etc.
 - 8. Water distribution layouts.
 - 9. Gas service piping, metering and layout.
 - 10. Vacuum breakers, gauges and thermometers.
 - 11. Pump control panel with wiring diagram and sequencing.

1.5 COORDINATION

- A. Before commencing work, coordinate all work of allied trades according to the intent of this Specification.

- B. The work of this division shall be coordinated with the work of other trades and so arranged that there will be no inconvenience or delays in the installation and completion of any work of each trade. The General Contractor will check the Electrical, Sprinkler, and HVAC plans and shop drawings submitted by the Contractors of these respective divisions, so as to avoid any possibility of a conflict of the Plumbing work with the work of these or any other trades. The General Contractor shall give all others whose work connects with its work, all necessary information required for the proper installation of their work without unnecessary delay.
- C. The Plumbing Subcontractor shall fully cooperate with the Carpentry Plumbing Subcontractor in the installation of the kitchen sinks and lavatory basins. Coordination of installation to be as directed by the Commissioner. All sinks and basins to be mounted in a waterproof and careful manner so as to avoid chipping of the fixtures.
- D. This Contractor shall give the Commissioner ample notice as to the size and location of any special openings desired for bringing in, removing, or handling equipment within the building.
- E. This Plumbing Subcontractor shall prepare and furnish to the City of New York, for distribution to the superstructure Plumbing Subcontractor, drawings of the sleeves, slots and depressions required, and shall be responsible for checking the layouts of same prior to the construction of the Superstructure.
- F. Refer to the list of mechanical and electrical drawings in Schedule of Drawings. This Contractor shall also refer to the Architectural details, site plans, floor plans and elevations and Structural Drawings
- G. The Drawings and Specifications are intended to supplement each other so that any details shown on the Drawings and not mentioned in the Specifications, or vice versa, shall be executed the same as if mentioned in the Specifications and shown on the Drawings, or vice versa.

1.6 PRIOR TEST

- A. All concealed work must remain uncovered until required tests have been completed. But, in the event that construction schedule requires it, this Contractor shall make arrangements for prior tests on portions of the plumbing work involved. The General Contractor or Commissioner shall be notified in advance of all prior tests and will be represented at such test. The cost of prior tests shall be paid by this contractor.

1.7 TEMPORARY SERVICE

- A. Refer to Section 015000, and coordinate with same.

- B. This Plumbing Subcontractor shall furnish and install temporary water lines with hose bibs from service lines where directed by the Project Superintendent on the first floor and second floor. The location of the temporary water risers and waste lines shall be coordinated with the City of New York prior to the start of the superstructure. All temporary plumbing installations shall be maintained by this Plumbing Subcontractor and shall be protected against frost. All items of temporary utility shall be removed when directed by the Project Superintendent.
- C. This Contractor shall provide temporary toilet facilities sufficient in number of all phases of construction to conform to the requirements of the Local Building Code and all departments having jurisdiction. Enclosures shall be furnished and installed by others.
- D. This Plumbing Subcontractor shall furnish and install temporary pumps, prior to the installation of the permanent pumps as required, to keep first floor free of water.

1.8 PROTECTION

- A. Every soil, leader, vent, waste and gas supply opening of any character shall be closed by means of a test plug, screw cap or other appropriate fitting, and no paper, wood, brick, plaster or other substitute will be allowed. Plugs or caps shall not be removed from the pipe opening except during the time the pipe is being actually worked upon.
- B. Special care shall be taken in closing all traps in water closets, bath tubs, and plugs of sinks in lavatories so that no building debris can enter.
- C. This Plumbing Subcontractor shall be held responsible for the protection of all plumbing fixtures against breakage or damage at all times until the final acceptance of the installation on a floor by floor basis as installed.
- D. All work shall be protected by this Plumbing Subcontractor against freezing during the course of construction, and this Plumbing Subcontractor shall remove and replace any piping, equipment, etc., that was damaged due to freezing at its own cost.
- E. It is the responsibility of this Plumbing Subcontractor to properly lubricate, as required by the manufacturer, all pumps motors, etc., before electrical connections are made by the Electrical Plumbing Subcontractor and the equipment is put into operation. The Plumbing Subcontractor will be held fully responsible for any damage to the equipment that is put into operation without previously having been lubricated.

1.9 GUARANTEE

- A. This Contractor shall guarantee all material, fixtures, equipment and workmanship, specified for this Section of the Specifications, to be free from defects for a period of one (1) year from the date of acceptance and shall replace any part of parts found to be defective within the period of guarantee with

acceptable material and workmanship. Date of acceptance shall commence from date of final payment.

- B. Refer to requirements of DDC General Conditions and provide the most stringent terms.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

END OF SECTION

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SECTION 220523 - GENERAL - DUTY VALVES FOR PLUMBING PIPING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Contract Documents: The work of the section with the Contract Documents, including the General Conditions, the Supplementary Conditions and Division 01 - General Requirements.

1.2 SUMMARY

- A. General: Provide all plant, labor, tools, appliances, equipment, materials and services required for the work indicated on the drawings and specified in this section.
- B. Work Included: The work includes, but is not necessarily limited to, the following:

Work under this Section of the Specifications shall consist of providing all labor, material equipment and appurtenances, unless hereinafter specifically exempted, necessary for an incidental to the execution and completion of the Plumbing Piping Systems and accessories as indicated on the drawings and specified herein.

Description of the Work:

1. Gate valves
2. Globe and angle valves
3. Swing check valves
4. Lift check valves
5. Silent check valves (pump discharge)
6. Ball valves
7. Butterfly valves
8. Plug lubricated valves
9. Pressure reducing valves
10. Regulators for gaseous piping

11. Hose bibbs
12. Thermostatic temperature regulator
13. Tempering valves
14. Backflow preventers
15. Solenoid valves
16. Water service valves

1.3 RELATED DOCUMENTS

- A. All work shall be subject to the General Conditions and shall comply with applicable requirements of the Contract.
- B. Requirements of Section 220500 and 221116 shall also govern work specified herein.

1.4 SUBMITTALS

- A. Furnish to the Commissioner for approval, manufacturers technical literature, drawings and diagrams describing each item specified or illustrated.

1.5 QUALITY ASSURANCE

- A. Provide valves of same manufacturer throughout where possible.
- B. Provide valves with manufacturer's name and pressure rating clearly marked on the outside of the body.
- C. Approved Manufacturers
 1. Gate, globe, angle valves, swing, lift and ball check valves
Jenkins
Stockham
Hammond
Kennedy
Crane
Flygt
 2. Silent check valves
Smolensky
Williams - Hager
Mueller

3. Ball valves

Apollo
Watts
Worcester
Jamesbury
Fairbanks
Rockwell McCanna
4. Butterfly Valves

Rockwell - McCanna Co.
Jamesbury Co.
Duriron
5. Plug lubricated valves

Rockwell Norstrom
DeZurik
Dresser
6. Pressure reducing valves (PRV)

Ford
A.W. Cash
Watts
7. High purity valves and regulators

Carter
Nupro Company
Whitey Company
8. Hose bibbs

Mueller
9. Thermostatic temperature regulators

Powers
Lawler Automatic Control, Inc.
Speaker
Symmons
Holby
10. Backflow preventers

Febco
Wilkins
Watts

Cla-Val Co
Lawler

PART 2 - PRODUCTS

2.1 GATE VALVES

- A. Valve bodies three inches (3") and smaller shall be all bronze with bronze trim.
- B. Valve bodies four inches (4") and larger shall be iron body with bronze trim.
- C. Bronze valve shall have aluminum alloy hand wheels. Iron body valves shall have malleable, cast iron or high tensile strength alloy steel hand wheels.
- D. Use rising stem gate valves where space permits.
- E. Valves six inches (6") and larger shall be equipped with valve bypass.
- F. Model numbers listed below are valves manufactured by Fairbanks Valves unless otherwise indicated. Equal valves of approved manufacturers will also be approved.
- G. Ball valves may be substituted for gate valves in sizes three inches (3") and smaller.
- H. Valve Application:

1. Domestic Water System

<u>Sizes</u>	<u>Pressure Class</u> <u>SWP/CWP</u>	<u>Model No.</u>	<u>Valve End</u>
2 1/2" smaller	/300	0282	Socket
3" & larger	125/200	0405	Flange
2" & larger	250/500	0312	Flange

2. Sewage Ejector Discharge

<u>Sizes</u>	<u>Pressure Class</u> <u>SWP/CWP</u>	<u>Model No.</u>	<u>Valve End</u>
All	125/200	0405	Flange

3. Storm Water Sump Pump Discharge

<u>Sizes</u>	<u>Pressure Class</u> <u>SWP/CWP</u>	<u>Model No.</u>	<u>Valve End</u>
2" & 2 1/2"	150/300	0252	Screw

3" & larger 125/200 0405 Flange

2.2 GLOBE & ANGLE VALVES

- A. Valve bodies three inches (3") and smaller shall be all bronze with bronze trim.
- B. Valve bodies four inches (4") and larger shall be iron body with bronze mounted trim.
- C. Provide re-grindable seats and composite discs for all globe valves and throttling nuts for globe valves used for pipeline balancing.
- D. Model numbers listed below are valves manufactured by Fairbanks Valves unless otherwise indicated. Equal valves of approved manufacturers will also be approved.
- E. Ball valves may be substituted for globe valves in sized three inches (3") and smaller.
- F. Valve Application

1. Domestic Water System

<u>Sizes</u>	<u>Pressure Class</u> <u>SWP/CWP Rating</u>	<u>Model No.</u>	<u>Valve End</u>
2" & smaller	-/300	4502-2	Socket
2 1/2" & 3"	150/300	U-01	Screw
4" & larger	125/200	0102	Flange

2.3 SWING CHECK VALVES

- A. Valve bodies three inches (3") and smaller shall be all bronze.
- B. Valve bodies four inches (4") and larger shall be iron body bronze mounted.
- C. Swing check valves shall be provided with composite discs for sewage ejector and sump pump discharge.
- D. Model numbers listed below are valves manufactured by Fairbanks Valves unless otherwise indicated. Equal valves of approved manufacturers will also be approved.
- E. Double door check valves for compressed air shall be threaded full flange type, carbon steel body, stainless steel door and pins (type C), monel spring, and Buna-N seats.
- F. Valve Application

1. Domestic Water System

<u>Size</u>	<u>Pressure Class</u> <u>SWP/CWP Rating</u>	<u>Model No.</u>	<u>Valve End</u>
3" & smaller	-/300	0681	Socket
4" & larger	125/200	0702	Flange

2. Sewage Ejector Discharge

<u>Sizes</u>	<u>Pressure Class</u> <u>SWP/CWP Rating</u>	<u>Model No.</u>	<u>Valve End</u>
All	-/150 HDL-2016	Flygt	Flange
3"-12"	125/200	0719	Flange

3. Storm Water Sump Pump Discharge

<u>Sizes</u>	<u>Pressure Class</u> <u>SWP/CWP Rating</u>	<u>Model No.</u>	<u>Valve End</u>
All	125/200	0719	Flange
All	-/150 HDL-2016	Flygt	Flange

4. Fire Standpipe System (Except Pump Discharge)

<u>Sizes</u>	<u>Pressure Class</u> <u>CWP Rating</u>	<u>Model No.</u>	<u>Valve End</u>
All	-/175	0711	Flange
All	-/250	0705	Flange
All	-/350	0705	Flange
All	-/500	0705	Flange

2.4 SILENT CHECK VALVE

- A. Silent check valves for domestic water, non-potable water system pump discharges shall be flanged globe type with stainless steel (S/S) spring and Buna-N insert.
- B. Silent check valves for fire standpipe pump discharges shall be flanged water type with stainless steel spring and Buna-N insert.
- C. Valve seat and disc shall be renewable and reseated without special tools.

- D. Model numbers listed below are valves manufactured by Williams - Hager unless otherwise indicated. Equal valves of approved manufacturers will also be approved.
- E. All parts of valves in contact with deionized, demineralized, and/or process water shall be stainless steel.
- F. Valve Application

- 1. Domestic Water Pump Discharge

<u>Sizes</u>	<u>Pressure Class & WOG Rating</u>	<u>Model No.</u>	<u>Body</u>	<u>Disc</u>	<u>Seat Ring</u>
2 1/2" & smaller	125/175	329	Semi-Steel	Bronze	
2 1/2" & smaller	150/285	329	Cast steel	S/S	S/S
2 1/2" & smaller	250/400	329	Cast steel	S/S	S/S
3" & larger	125/175	636	Semi-Steel	Bronze	
3" & larger	150/285	636	Cast-Steel	S/S	S/S
3" & larger	250/400	636	Semi-Steel	Bronze	
3" & larger	300/740	636	Cast-Steel	S/S	S/S

2.5 BALL VALVES

- A. Ball valves may be substituted for gate and globe valves in sizes three inches (3") and smaller.
- B. Ball valves installed in piping for balancing shall be provided with memory balancing stops.
- C. Ball valves shall have full port ball and body construction.
- D. Bronze ball valves shall be constructed of a one piece bronze casting and machined end piece retainer, rated at 600 P.S.I. CWP, with blow-out proof stem design complete with teflon seat and seals and chrome plated full port bronze ball.

- E. All ball valves shall be (100%) factory tested.
- F. Provide union end valves at equipment in lieu of one union.
- G. Provide ball valves with mounting pad where valve actuators are required.
- H. Provide "T" handle to actuate valves two inches (2") and smaller in lieu of lever handle when space limitations exist.
- I. Model numbers listed below are valves manufactured by Apollo unless otherwise indicated. Equal valves of approved manufacturers will also be approved.
- J. Valve Application

- 1. Domestic Water Systems

<u>Size</u>	<u>Model No.</u>	<u>Valve End</u>
1/2"	70-203	Socket
3/4"	77-204	Socket
1"	77-205	Socket
1 1/4"	77-206	Socket
1 1/2"	77-207	Socket
2"	77-208	Socket
2 1/2"	77-209	Screw w/adapter
3"	70-200	Screw w/adapter

PART 3 – EXECUTION (NOT USED)

END OF SECTION

SECTION 220529

HANGERS AND SUPPORTS FOR PLUMBING, PIPING & EQUIPMENT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Contract Documents: The work of this section shall comply with the Contract Documents, including the General Conditions, the Supplementary Conditions and Division 01 - General Requirements.

1.2 SUMMARY

- A. General: Provide all labor, materials and services required for the work indicated on the drawings and specified in this section.
- B. Work Included: The work includes, but is not necessarily limited to, the following:
 - 1. Hangers and supports.
- C. Related Work: The following related items are specified in other sections of the specifications:
 - 1. Plumbing Piping
 - 2. General Construction

1.3 QUALITY ASSURANCES

- A. Approved Manufacturers
 - 1. F & S Central
 - 2. ITT Grinnel
 - 3. Fee & Mason
 - 4. Michigan Hanger Co., Inc.

1.4 SUBMITTAL DATA

- A. Furnish to the Commissioner for approval, manufacturers technical literature, drawings, and diagrams describing each item specified or illustrated.

PART 2 - PRODUCTS

2.1 HANGERS

A. No-Hub cast iron pipe.

1. Horizontal Piping:

- a. Clevis hanger at each pipe length within twelve (12) inches of each fitting and coupling.
- b. Bracing to maintain pipe alignment.

2. Vertical Piping:

- a. Riser clamps at each slab penetration.
- b. Stand-offs or sway bracing at every piping length.
- c. Restrain leader, soil and waste piping without vented branch connections as follows:

<u>Pipe Sizes</u>	<u>Restrain All Couplings Above Horizontal Offset *</u>
1-1/2" through 4"	50 feet
5" and 6"	40 feet
8" and 10"	30 feet

* Includes Piping System Test Head.

3. Pipe Offsets:

- a. Vertical to horizontal and horizontal to vertical:
Threaded rods and steel collars.

B. Hub and Spigot Cast Iron Pipe

1. Horizontal Piping:

- a. Clevis hanger at each length near the hub and at each fitting and not less than five (5) foot intervals.

2. Vertical Piping:

- a. Riser clamp at each penetration.
- b. Standoffs at ten foot intervals.

C. Steel Pipe

1. Horizontal Piping:
 - a. One (1) inch and smaller - Clevis hangers eight (8) feet on centers.
 - b. One and one quarter (1 1/4) inch and larger - Clevis hangers twelve (12) feet on centers.
2. Vertical Piping:
 - a. Riser clamps at each slab penetration.
 - b. Stand-offs at ten foot intervals.

D. Copper Tubing

1. Horizontal Piping
 - a. One and one quarter inch (1 1/4") and smaller clevis hanger eight feet (8) on center.
 - b. One and one half inch (1 1/2") and larger clevis hanger ten feet (10) on center.
 - c. Hangers to be of adequate size to permit insulation to be continuous through hangers.
2. Vertical Piping:
 - a. Copper plated riser clamps at each slab penetration.
 - b. Copper plated stand-offs at ten foot intervals.
 - c. To control expansion, anchor piping to construction using one copper plated riser clamp above and one below floor slab.

2.2 HANGER RODS

- A. Hanger rods shall be hot rolled steel, threaded and shall be of the following minimum sizes:

<u>Pipe Size</u>	<u>Rod Diameter</u>
3 inches & smaller	1/2"
4 & 5 inches	5/8"
6 inches	3/4"
8, 10 and 12 inches	7/8"
15 inches	1"

2.3 PROTECTION OF INSULATED PIPE

- A. Provide insulation protection shield at each hanger, 12 gage for piping 2 1/2 inches and smaller and 8 gage for larger piping.

2.4 INSERTS

- A. Provide in poured reinforced concrete decks, wedge type concrete insert nailed to wood forms and 1/2 inch reinforcing rod through opening at top of insert. Use light weight concrete insert in light weight concrete decks.
- B. Provide in metal deck with concrete fill either a steel washer plate placed over the metal deck corrugations or reinforcing rod spanning the corrugations. Secure threaded hanger rod to plate with double nut or a threaded eye rod through the reinforcing rod terminating below underside of metal deck at hanger. Details of the installation and sizes of material in decking shall be approved by the Commissioner.

2.5 MATERIAL FINISHES

- A. All pipe hangers, inserts, supports, supplemental steel, rods, etc., shall be galvanized.
- B. Components in contact with copper pipe or tubing shall be copper plated.

2.6 PROHIBITED MATERIALS AND METHODS

- A. Supporting piping from other piping conduit or ductwork.
- B. Welding hanger rods to building steel.
- C. Perforated band or strap iron.
- D. Wire, string, rope or chain.
- E. Use of table in metal deck.
- F. Expansion anchors, self drilling expansion shields, power driven studs and similar devices.
- G. Caddy clips.
- H. "C" clamps.

PART 3 – EXECUTION

3.1 INSTALLATION

- A. Provide sufficient hangers, supports, beam clamps with retainer, supplemental steel, inserts, fish plates mounting devices, etc., to support piping in perfect alignment without sagging or interference, permit complete drainage and free expansion and contraction and as directed by the Commissioner.

- B. All hangers, inserts, supports and devices for fire standpipe system shall be located and approved by UL, NFPA and FM Underwriter and Board of Standard and Appeal.
- C. All hangers and supports shall be capable of screw adjustment after piping is erected and provided with a lock unit to prevent loss of adjustment.
- D. Provide required anchors, sway bracing, blocking and steel to connect to structure to prevent pipe movement due to expansion, contraction or thrust where required and as directed by the Commissioner.
- E. Provide bracing in addition to required pipe hangers to maintain pipe alignment.
- F. Provide anchors on pump discharge piping as required to assure piping alignment and stability from pump operation.
- G. Where required, provide supplemental channels and steel to support work of this section, Cut ends of steel shall be ground smooth free from burs and sprayed with a galvanized coating.
- H. Where several pipes rest on a common trapeze, increase hanger rod diameter and decrease spacing in accordance with maximum and minimum pipe sizes respectively.
- I. Provide pipe restraints to prevent movement by an upward thrust in the pipe risers.
- J. Hanger system shall not penetrate waterproofing.
- K. Pipe and equipment support system shall be installed not to weaken the building structural system.
- L. Horizontal piping with grooved mechanical couplings shall not be left unsupported between any two couplings nor shall any pipe be left unsupported wherever a change of line flow takes place.
- M. Do not hang pipe from metal roof decks; suspend from steel beams.
- N. Riser clamps supporting or anchoring vertical piping shall have equal arm resting on the slab. Recess arms in slab two inches in exposed areas. Provide supplemental steel when piping occurs in open shafts.
- O. Piping below slab in unstable earth shall be supported as described in Part 2 of the section.

END OF SECTION

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SECTION 220533

HEAT TRACING FOR PLUMBING PIPING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes heat tracing with the following electric heating cables:
 - 1. Self-regulating, parallel resistance.

1.3 SUBMITTALS

- A. Product Data: Include rated capacities, operating characteristics, furnished specialties, and accessories for each type of product indicated.
 - 1. Schedule heating capacity, length of cable, spacing, and electrical power requirement for each electric heating cable required.
- B. Field quality-control test reports.
- C. Operation and Maintenance Data: For electric heating cables to include in operation and maintenance manuals.
- D. Warranty: Special warranty specified in this Section.

1.4 QUALITY ASSURANCE

- A. 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.
- B. All heating-cable components shall be UL Listed, CSA Certified, or FM Approved for use as part of the system to provide pipe freeze protection.

1.5 WARRANTY

- A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace electric heating cable that fails in materials or workmanship within specified warranty period.

1. Warranty Period: 10 years from date of Substantial Completion.

PART 2 - PRODUCTS**2.1 SELF-REGULATING, PARALLEL-RESISTANCE HEATING CABLES**

- A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

1. BH Thermal Corporation.
2. Chromalox, Inc.; Wiegard Industrial Division; Emerson Electric Company.
3. Delta-Therm Corporation.
4. Easy Heat Inc.
5. Nelson Heat Trace.
6. Pyrotenax; a division of Tyco Thermal Controls.
7. Raychem; a division of Tyco Thermal Controls.
8. Thermon Manufacturing Co.
9. Trasor Corp.

- B. Heating Element: Pair of parallel No. 16 AWG, nickel-coated stranded copper bus wires embedded in crosslinked conductive polymer core, which varies heat output in response to temperature along its length. Terminate with waterproof, factory-assembled nonheating leads with connectors at one end, and seal the opposite end watertight. Cable shall be capable of crossing over itself once without overheating.

- C. Electrical Insulating Jacket: Flame-retardant polyolefin.

- D. Cable Cover: Tinned-copper braid, and polyolefin outer jacket with UV inhibitor.

- E. Maximum Operating Temperature (Power On): 150 deg F.

- F. Maximum Exposure Temperature (Power Off): 185 deg F.

- G. Maximum Operating Temperature: 300 deg F.

- H. Capacities and Characteristics:

1. Maximum Heat Output: 8 W/ft.
2. Piping Diameter: 2-1/2"
3. Volts: 120 V.

- 4. Phase: 1
- 5. Hertz: 60

2.2 CONTROLS

- A. Remote bulb unit with adjustable temperature range from 30 to 50 deg .
- B. Snap action; open-on-rise, single-pole switch with minimum current rating adequate for connected cable.
- C. Remote bulb on capillary, resistance temperature device, or thermistor for directly sensing pipe-wall temperature.
- D. Corrosion-resistant, waterproof control enclosure.

2.3 ACCESSORIES

- A. Cable Installation Accessories: Fiberglass tape, heat-conductive putty, cable ties, silicone end seals and splice kits, and installation clips all furnished by manufacturer, or as recommended in writing by manufacturer.
- B. Warning Tape: Continuously printed "Electrical Tracing"; vinyl, at least 3 mils thick, and with pressure-sensitive, permanent, waterproof, self-adhesive back.
 - 1. Width for Markers on Pipes with OD, Including Insulation, Less Than 6 Inches: 3/4 inch minimum.
 - 2. Width for Markers on Pipes with OD, Including Insulation, 6 Inches or Larger: 1-1/2 inches minimum.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine surfaces and substrates to receive electric heating cables for compliance with requirements for installation tolerances and other conditions affecting performance.
 - 1. Ensure surfaces and pipes in contact with electric heating cables are free of burrs and sharp protrusions.
 - 2. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. Install electric heating cable across expansion joints according to manufacturer's written recommendations using slack cable to allow movement without damage to cable.
- B. Install electric heating cables after piping has been tested and before insulation is installed.
- C. Install electric heating cables according to IEEE 515.1.
- D. Install insulation over piping with electric cables according to Division 23 Section "HVAC Insulation."
- E. Install warning tape on piping insulation where piping is equipped with electric heating cables.
- F. Set field-adjustable switches and circuit-breaker trip ranges.
- G. Protect installed heating cables, including nonheating leads, from damage.

3.3 CONNECTIONS

- A. Ground equipment according to Division 26.
- B. Connect wiring according to Division 26.
- C. All branch circuits shall be connected to a GFI type circuit breaker.

3.4 FIELD QUALITY CONTROL

- A. Testing: Perform tests after cable installation but before application of coverings such as insulation, wall or ceiling construction, or concrete.
 - 1. Test cables for electrical continuity and insulation integrity before energizing.
 - 2. Test cables to verify rating and power input. Energize and measure voltage and current simultaneously.
- B. Repeat tests for continuity, insulation resistance, and input power after applying thermal insulation on pipe-mounting cables.
- C. Remove and replace malfunctioning units and retest as specified above.

END OF SECTION

SECTION 220700 - PLUMBING INSULATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Contract Documents: The work of this section shall comply with the Contract Documents, including the General Conditions, the Supplementary Conditions and Division 01 - General Requirements.

1.2 SUMMARY

- A. General: Provide all plant, labor, tools, appliances, equipment, materials and services required for the work indicated on the drawings and specified in this section.
- B. Work Included: The work includes, but is not necessarily limited to, the following:

Work under this Section of the Specifications shall consist of providing all labor, material, equipment and appurtenances, unless hereinafter specifically exempted, necessary for and incidental to the execution and completion of the Piping Insulation Systems and accessories as indicated on the drawings and specified herein.

1.3 REFERENCE STANDARDS

- A. Material and installation shall comply with latest editions of applicable codes, recommended practices and standards of ASTM, NFPA and U.L.

1.4 SUBMITTALS

- A. Shop Drawings
 - 1. Catalogue cuts of each type of insulation including:
 - a. K' factor per inch of thickness.
 - b. Chemical composition.
 - c. Density.
 - d. Permeability.
 - e. Finish (inside and outside).
 - f. Pre-molded fitting insulation.
 - g. Fitting covers.
 - h. Installation instructions.
 - 2. Schedule of thermal insulation for all applications on project.
 - a. Indicate system for which insulation is intended.
 - b. Thicknesses required.

- c. Method of insulating fittings, valves and irregular shaped items.
- d. Finishes.

B. Submit samples when requested by the Commissioner.

1.5 DESCRIPTION OF WORK

A. Work shall include, but is not necessarily limited to, the following:

- 1. All required piping insulation.
- 2. All required equipment insulation.

PART 2 - PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

A. The following insulation manufacturers will be acceptable: Johns-Manville, Owens-Corning, Certainteed or approved equal Johns-Manville catalog numbers are used as a basis unless otherwise noted.

2.2 MATERIALS

A. General: All insulation shall have composite (insulation, jacket or facing, and adhesive used to adhere the facing or jacket to the insulation) fire and smoke hazard ratings as tested by procedure ASTM E-84, NFPA 255 and UL 723 not exceeding a flame spread of 25 and smoke developed of 50.

- 1. Accessories, such as adhesives, mastics, cements, tapes and cloth for fittings shall have the same component ratings as listed above.
- 2. All products of their shipping cartons shall bear a label indicating that flame and smoke ratings do not exceed above requirements.
- 3. Any treatment of jackets or facings to impart flame and smoke safety shall be permanent. The use of water soluble treatments is prohibited.
- 4. Certify in writing, prior to installation, that all products to be used will meet the above criteria.

B. Pipe and Fitting Insulation:

- 1. Insulate all domestic hot, and hot water circulation piping with Johns-Manville Micro Lok 650 fiberglass pipe insulation. Use Micro Lok 650AP-T vapor barrier insulation with pressure sensitive closure system for cold water, chilled drinking water supply and circulation, drinking fountain waste, vertical and horizontal leader piping and AC drainage piping. The insulation average thermal conductivity shall not exceed 0.22 BTU per inch, per square foot per degrees F. per hour at a mean

temperature of 75 degrees F. Insulation thickness shall conform to the following table.

<u>Piping System</u>	<u>Pipe Size</u>	<u>Insulation Thickness</u>
Domestic Cold Water	All	(Except Service 1/2 in. main)
Domestic Cold Water	Service main	1 in.
Horizontal Leaders	All	1/2 in.
Vertical Leaders	All	1/2 in.
Domestic Hot Water & Circulating 1 1/2 in. & smaller		1 in.
Domestic Hot Water & Circulating 2 in. & larger		1 1/2 in.
Drainage piping from AC unit and cooling coil drip pans and subject to sweating	All	1 in.

2. Insulate fittings, valves, unions, flanges, etc., in exposed locations with performed fiberglass fitting covers and pre-molded PVC covering. Install insulation to a thickness equal to adjacent pipe insulation. In concealed locations wrap with one pound per cubic foot fiberglass insulation and wire on with three strands of soft galvanized wire. Use vapor barrier where required for pipe insulation. Blanket insulation must overlap adjacent pipe insulation.
3. All piping exposed to freezing and where indicated on the drawings shall be electrically heat traced, insulated with an additional 2 1/2 inches of specified insulation and cover with a corrugated aluminum jacket. Longitudinal joints shall be designed to maintain a water tight joint. Circumferential joints shall be made with 1/2" wide aluminum bands. Fittings shall be insulated with 2 1/2" thick blanket insulation as described previously and covered with aluminum jacket of matching design to the piping jacket. For exterior piping not exposed to freezing, omit additional 2 1/2 inches of insulation. Approved manufacturers: Al-Cor-Jac, Alton Company, Childers or equal.
4. Roof drain bodies shall be covered with J-MR-6 Microlite 7 SK wired and sealed with vapor barrier.

C. Equipment Insulation:

1. Insulate hot water generators with 2" thick fiberglass insulating board equal to Johns-Manville 814 cut and mitered and secured in place with bands or wires on 12 inch centers. Point up all joints with insulating

cement. Cover insulation with 1" hexagonal wire mesh. Apply two coats of mineral wool cement and trowel to a smooth finish. Size mineral wool with two brush coats of Benjamin Foster 30-36 adhesive.

2. Insulate water meters, backflow preventors, etc., with 4 pound density 1" thick vapor barrier fiberglass insulation blanket, fitted and contoured to shape and secured in place with bands or wire. Apply two coats of mineral wool cement and trowel to a smooth finish, and finish with two applications of Benjamin Foster 30-36 vapor barrier finish.

PART 3 - EXECUTION

- A. Insulate all equipment, valves, piping, fittings, including mains, branches, risers, etc., as described in Part 2 of this section. Omit insulation on hot and cold water toilet room group fixture roughing within concealed pipe chases.
- B. Insulation shall be installed only on clean, dry piping subsequent to acceptance of specified tests, Removal all foreign material such as rust, scale, dirt, etc., prior to installation.
- C. Insulation shall be continuous through hangers, slabs, walls, ceiling openings and sleeves. Piping through fire rated walls and slabs shall be provided with a schedule 40 steel pipe sleeve. Insulation is to be omitted through the fire rated wall and slabs and the annular space between the sleeve an pipe shall be filled to prevent flame spread in accordance with local requirements.
- D. The application of all insulation materials, accessories and finishes shall be in accordance with the manufacturer's published recommendations.
- E. Submit type and manufacturer of all insulating materials, adhesives, coatings, etc., for approval prior to commencement of installation.
- F. Provide at each hanger supporting insulated piping, a Fee & Mason figure number 81 insulation protector, 18 gauge for piping up to 2 1/2 inch size and 16 gauge for larger piping.
- G. Where insulation is specified for piping, insulate similarly all connections, vents, drains, and any piping connected to system.
- H. Fill surface imperfections such as chipped edges, small joints, cracks, voids, or holes with insulation material and smooth all such area with a skim coat of insulating cement.
- I. Do not insulate equipment nameplates, identification tags, stampings or final connections to plumbing fixtures beyond walls.
- J. Specialties shall be insulated to match those of the systems to which they are connected.

- K. Existing insulation damaged or removed shall be replaced with material and workmanship as that specified for the new work.
- L. Insulate horizontal leader piping to and including the first fitting of the vertical leader when insulation is not required for the vertical leaders.

END OF SECTION

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SECTION 221116 - PLUMBING PIPING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Contract Documents: The work of the section with the Contract Documents, including the General Conditions, the Supplementary Conditions and Division 01 -General Requirements.

1.2 SUMMARY

- A. General: Provide all plant, labor, tools, appliances, equipment, materials and services required for the work indicated on the drawings and specified in this section.
- B. Work Included: The work includes, but is not necessarily limited to, the following:

Work under this Section of the Specifications shall consist of providing all labor, material, equipment and appurtenances, unless hereinafter specifically exempted, necessary for and incidental to the execution and completion of the Plumbing Piping Systems and accessories as indicated on the drawings and specified herein.

Description of the Work:

- 1. Sanitary Drainage and Vent System.
 - 2. Domestic Hot and Cold Water Supply System
- C. Related Work
 - 1. Hangers and Supports.
 - 2. Plumbing Equipment.

1.3 QUALITY ASSURANCE

- A. Coordination of Work: Coordinate layout and installation of all piping with other work in ceiling and wall such as fixtures, HVAC equipment, ductwork, conduit, risers and sprinkler pipe.
- B. Codes and Standards
 - 1. Comply with applicable portions of the New York State Building Code.

2. Standards listed below are referenced in this section.
 - a. American Society for Testing and Materials (ASTM)
 - b. American Standards Associates (ASA)
 - c. American National Standards Institute (ANSI)
 - d. United States of America Standards Institute
 - e. NFPA (all applicable standards)

1.4 SUBMITTALS

A. Shop drawings and Manufacturer's Performance Data Sheets:

1. Valves and cocks, all types for all services. Submit schedule and cuts.
2. Strainers.
3. Pipe hanger, rods, inserts supports, anchors and guides.
4. Piping layouts for all piping systems drawn at same scale as ductwork shop drawings; where such piping is completely shown on coordination drawings, separate piping shop drawings for the same area or areas are not required. Piping shop drawings shall show all hangers and supports (type and location), fittings, valves, strainers and accessories. They shall show all sections necessary to establish pipe elevations, shall identify hanger types and loads, and show all tie-ins to HVAC piping, support equipment, and all miscellaneous accessories.
5. Pipe fittings.
6. Flexible connectors.
7. Sleeve details and flashings.
8. Escutcheon plate.
9. Submit samples when requested by the Commissioner.

PART 2 - PRODUCTS

2.1 PIPE

- A. Pipe shall be new, free from scale or rust, and of material and weight specified under the various services. Each length of pipe shall be properly marked at the mill for proper identification with name or symbol of manufacturer.
- B. All galvanized pipe shall be hot-dipped.

- C. Nipples shall be extra heavy type of same material as pipe; close nipples are not acceptable.
- D. High purity pipe shall be seamless copper, type K or L, annealed and cleaned for refrigeration service and also in conformance to ASM-B-280-79 (ACR Standard) including cleanliness test. Fittings shall be wrought copper. No cast fitting shall be used. They shall be cleaned for ACR service and also conform to ASTM-B-280-79 and protected from contamination by sealing in plastic bags. Each shipment to be certified by fitting manufacturer prior to delivery. Certification to be per ASTM-B-280-79 residue requirements.

2.2 UNIONS AND FLANGES

- A. Piping connection under 3 inches to all equipment shall be made up with unions and piping 3 inches and larger shall be flanged unless otherwise noted.
- B. Flanges shall be of the same weight and pressure rating of adjacent pipe, valves and fittings. Flanges shall be ANSI approved class 125, 250 or 300 constructed of cast iron, bronze or steel as required complete with gasket recommended for pressure, temperature and type of service. Each flange and gasket shall be stamped with manufacturer's name or trademark. Nuts, bolts and washers shall be of the material and strength required for temperature, and pressure of service and system operation.

2.3 DISSIMILAR METALS

- A. Pipe, fittings, hangers, etc., of dissimilar metals shall be insulated against direct contact with each other, by using a high quality or grade of dielectric material such as micarta or teflon.
- B. Provide insulating flanges, couplings or unions where brass or copper pipe connects to galvanized or cast iron pipe.
- C. Flanged connections shall be made with gaskets, sleeves and washers of dielectric material for complete isolation between flanges, bolts, nuts and washers.

2.4 PIPE EXPANSION JOINTS - ANCHORS - GUIDES

- A. Ensure that adequate provision for expansion be made in all piping by means of loops, bends or offsets. Where pipe lines join or where branches occur, provisions shall be made for the expansions of both lines.
- B. Guides shall be located and constructed wherever required or shown on drawings, to permit free axial movement only. A minimum of two (2) guides shall be installed on each end of joint plus at least one (1) guide between two (2) joints.
- C. Piping shall be adequately anchored where necessary to control expansion, pressure thrust and prevent undue strain on the fittings and apparatus. Anchors

shall be of heavy construction attached to pipe and secured to structure. Provide necessary steel for connection to structure.

2.5 NO-HUB CAST IRON COUPLING

- A. Cast iron No-Hub and fitting shall be made up with Clamp-All 304, 24 gauge stainless steel coupling with neoprene sleeve for all horizontal and vertical piping. For soil, waste and vent local plumbing fixture toilet roughing only, the Contractor may install the standard Cast Iron Coil Pipe Institute stainless steel no-hub coupling.

2.6 PIPING MATERIAL

- A. Piping Schedule:

<u>Service</u>	<u>Material</u>	<u>Schedule</u>	<u>Designation</u>
Exposed vents in finished areas and vents above ground of 2-1/2" size	Galvanized Steel	40	ASTM-120
Vents above ground, 1-1/2", 2", 3" thru 10"	No-hub cast iron	No-Hub	CISPI-310-78
Vents below ground hub & spigot	Cast iron	SV	ASTM-A74
Cold water, hot water and hot water circulation 4 inches and smaller above ground	Copper Hard drawn	Type "L"	ASTM B-88
Exposed waste in finished areas and waste above ground of 2-1/2" size	Galvanized Steel	40	ASTM A-120
Soil and waste ground 1-1/2", 2" 3" thru 10" sizes	No-Hub cast iron	No-Hub	CISPI-310-78
Soil and waste ground, all sizes	Cast iron hub & spigot	SV	ASTM-A74
Leaders above ground 3" thru 10" sizes	No-Hub cast iron	No-Hub	CISPI-310-78

Domestic Water &
Protection WaterAWWA ductile
ironAWWA
Class 52AWWA C-151
& 104

B. Fittings for various service shall be as follows:

<u>Service</u>	<u>Size</u>	<u>Material</u>	<u>Weight</u>	<u>Type</u>
Vents above ground	2-1/2"	Malleable iron	Standard	Screwed
Vents above ground	1-1/2", 2" 3" thru 10"	Cast iron	No-Hub	No-Hub
Waste above ground	2-1/2"	Cast iron	Drainage	Screwed
Soil & Waste above ground	1-1/2", 2" 3" thru 10"	Cast iron	No-Hub	No-Hub
Soil & Waste above ground	12" and 15"	Cast iron	SV	Lead
Leader above ground	3" thru 10"	Cast iron	No-Hub	No-Hub
Leader above ground	3" thru 10"	Cast iron	No-Hub	No-Hub
Leader below ground	All	Cast iron	SV	ASTM-C-565-65T Compression gasket
Cold water, hot water and hot water circulation below ground	2" & smaller	Wrought bronze	Standard	Solder
Cold water, hot water and hot water circulation above ground	4" & smaller	Wrought bronze	Standard	Solder

PART 3 - EXECUTION

3.1 PIPE INSTALLATION

PLUMBING PIPING

A. General

1. The word "piping" shall mean all pipes, fittings, nipples, valves and all accessories connected thereto.
2. Run piping generally parallel to the axis to the building, arranged to conform to the building requirements and to suit the necessities of clearance of ducts, flues, conduits and work of other trades and close to ceiling or other construction as practical, free of traps or bends.
3. Run horizontal sanitary waste and storm drainage at uniform pitch of not less than 1/8 inch per foot, unless indicated otherwise for piping 4 inches and larger. Piping 3 inches and smaller, pitch at not less than 1/4"/foot. Pitch horizontal vent piping downward from stack to fixtures.
4. Run drainage piping as straight as possible with long radius turns. Offsets shall be made at an angle of 45 degrees or less.
5. Grade supply and circulating water piping for complete drainage of the system. Install hose bibbs with caps at low points and air vents at high points.
6. Hot and cold water piping shall be separated by at least 6 inches where possible and every precaution taken to see that the pipes do not contact each other. Where the piping is parallel, ample space shall be provided between piping for the proper thickness of insulation.
7. Provide sufficient elbows, swings, and offsets to permit free expansion and contraction.
8. Use reducers or increasers use no bushings.
9. Ream or file each pipe out to remove burrs. Inspect each length of pipe and each fitting for workmanship and clear passageway.
10. All fixtures shall be individually trapped and vented.
11. Vent piping passing through roofs shall be 4 inch minimum. Pipes smaller than 4 inches shall be increased in size by means of an increaser. Pipes shall terminate at least 12 inches above the roof, or higher if required by code.
12. Cover, cap or otherwise protect open ends of all piping during construction to prevent damage to threads or flanges and prevent entry of foreign matter. Disinfect water supply piping as specified.
13. Exposed connections to fixtures and equipment shall be installed with special care showing no tool marks or threads at fittings and piping. No bowed or bent piping will be permitted.

14. Hubless cast iron waste and vent piping shall not be installed in finished areas without written approval from the Commissioner.
15. Piping through finished rooms and corridors shall be carried in partitions, in chases, or in recesses where same are provided in the walls, through the floors and in furred ceilings; run exposed pipes only as directed.
16. Provide protection under all liquid carrying pipes passing over electrical equipment. Protection shall consist of 22 gauge galvanized sheet steel pans with 6 inch lip, soldered corners, suitable hangers, waterproof paint and drain to nearest available floor drain or service sink.
17. All exposed water and waste piping in kitchens shall be chrome plated schedule 40 brass pipe.
18. Cutting of ductile iron pipe shall be done with a mechanical saw. The use of a chain cutter or other compression cutter is prohibited.
19. Fittings and steel piping not mill wrapped for gas service buried in earth shall be wrapped and/or coated with two heavy coats of bitumastic.
20. Joints between lead and cast iron or steel pipe shall be made with a full weight brass caulking ferrule or soldering nipple. Joint shall be full wiped with solder 3/4 inch each side of joint and a minimum thickness of 3/8 inch at the thickest part.

B. Pipe Joint Fabrication

1. Screwed joints shall be made up tight without the use of wicking. Teflon tape and/or compound suitable for the type of service shall be applied to male threads only.
2. Soldered joint shall be 50-50 tin-lead for domestic water piping 3 inches and smaller and copper indirect waster piping. Soldered copper tube joints shall be fabricated by cutting tubing square, ream cut ends, remove all oil and grease and thoroughly clean tube and fitting socket, apply flux to tube and fitting socket, assemble tube and fitting to assure proper clearances. Insert tube for the entire depth of socket and remove excess flux, heat assembly, apply solder to proper penetration of joint, wipe joint and allow to cool.
4. Leaded cast iron hub and spigot joints shall be firmly packed with new clean braided hemp and run full with molten lead in one continuous pour. Use 12 ounces of soft 99.7 percent pure clean pig lead for each inch of joint diameter. Caulk thoroughly gas and water tight.
5. Compression gasket cast iron hub and spigot pipe shall be thoroughly cleaned of all rust and other particles prior to insertion of gasket.

Lubricate inner and outer faces of gasket then push on draw the spigot into the gasketed hub with a pulling tool or other suitable device.

6. No-hub cast iron pipe shall be cut square. Place neoprene gasket on end of pipe or fitting. Place stainless housing with clamps on other end. Butt edges of pipe together within gasket until both are firmly seated against inner ring. Slide housing into position directly over gasket. Using torque wrench, alternately tighten clamps to the recommended torque. Restrain piping as detailed on the drawings.
7. Ductile iron mechanical joint water main pipe shall be assembled with a torque wrench. Torque applied to each bolt shall be as recommended by the manufacturer. If effective sealing is not attained at the recommended torque, the joint shall be disassembled and reassembled after thorough cleaning. Over-stressing of bolts to compensate for poor installation is not permitted.
8. Grooved pipe and fittings shall be clean and free from indentations, projections and tool marks in the area from pipe end to groove for proper gasket sealing. Provide a thin uniform coat for proper gasket sealing. Provide a thin uniform coat of lubricant on the suitable gasket intended for specified service as recommended by the manufacturer. Place the gasket over one pipe end, align pipe ends and bring together positioning the gasket between the groove on each pipe end. Assemble the housing over the gasket with housing key section engaging both grooves. The bolts shall be inserted, nuts started and uniformly tightened until the housing bolt pads are firmly seated together, metal or metal (where applicable).
9. Welding of piping shall be performed by welders qualified on the job site in accordance with ASME Section IX Boiler and Pressure Vessel Code. Qualification shall be certified by an independent inspection agency and proof of such qualifications shall be submitted for approval. In addition, the Contractor shall be submitted for approval. In addition, the Contractor shall submit for approval by the Commissioner a Standard Welding Procedure Specification to be used for the pipe system installation prior to commencement of work.
10. Joints between copper or brass and steel pipe shall be made by using a dielectric coupling, union or flange.
11. Joints between lead, cast iron or steel pipe shall be made with a full weight brass caulking ferrule or soldering nipple. Joint shall be full wiped with solder 3/4 inch each side of joint and minimum thickness of 3/8 inch at the thickest part.

3.2 SLEEVES, ESCUTCHEONS AND FIRESAFING

A. Sleeves

1. Provide sleeves for all piping passing through walls and floors. Sleeve diameter to be large enough to accommodate insulated piping. Sleeves to extend 1" above finished floors.
2. Sleeves through non-bearing and non-waterproof walls and floors: 18 gauge galvanized sheet metal.
3. Sleeves through bearing walls (non-waterproof): Schedule 40 galvanized steel pipe.
4. Fill annular space between pipe and sleeve with asbestos rope.
5. Sleeves through waterproof floors: J.R. Smith #1720 or Josam #1880. Add clamping collar and 24" x 24", 4 lb. lead flashing where construction has membrane.
6. Provide wall penetration closures where walls and slabs are sleeved or core drilled to assure a watertight installation. The entire installation shall be in accordance with the manufacturers recommendations.
7. Piping running through fire rated walls must be provide with a schedule 40 galvanized steel pipe sleeve. Insulation is to be omitted through the fire rated wall and the annular space between the sleeve and pipe shall be filled to prevent flame spread in accordance with local requirements.
8. Locate roof penetrations a minimum of twelve inches from walls or other obstructions to permit proper flashing.

B. Escutcheons

1. Provide chrome plated brass escutcheons, with set screw on all exposed piping at wall, ceiling and floor surfaces. For piping in unfinished areas, escutcheons need not be chrome-plated.

C. Firesafing

1. Seal off annular space of openings around piping at each floor slab and at fire walls.

END OF SECTION

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SECTION 221119 - PLUMBING SYSTEM ACCESSORIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Contract Documents: The work of the section with the Contract Documents, including the General Conditions, the Supplementary Conditions and Division 01 - General Requirements.

1.2 SUMMARY

- A. General: Provide all plant, labor, tools, appliances, equipment, materials and services required for the work indicated on the drawings and specified in this section.
- B. Work Included: The work includes, but is not necessarily limited to, the following:

Work under this Section of the Specifications shall consist of providing all labor, material, equipment and appurtenances, unless hereinafter specifically exempted, necessary for and incidental to the execution and completion of the Plumbing System accessories as indicated on the drawings and specified herein or as required.

PART 2 - PRODUCTS

2.1 CLEANOUTS AND CLEANOUT ACCESS COVERS

- A. Provide caulked or threaded type extended to finished floor or wall surface. Basis of Design: The following J.R. Smith Co. model numbers identify the type and quality of the fittings in the following applications:
1. Vertical piping: Cast iron caulk ferrule with lead seal cast bronze raised head plus where concealed in wall construction use figure number 4407U (or Approved Equal) lead seal cast bronze raised head plug with 7 inch diameter satin finished stainless steel shallow cover with vandal proof screws, length as required. Transition from no-hub piping system leaded cast iron pipe as required.
 2. Horizontal piping in hung ceiling or exposed: No-hub blind plug with coupling.
 3. Horizontal piping below slab light duty areas deck plate: Series number 4026U (or Approved Equal), cast iron body and frame with round adjustable scoriated secure nickel bronze top, inside caulk with lead seal bronze plug, use series number 4026U-F-C (or Approved Equal) with flashing flange and flashing device in waterproofed slabs.

4. Horizontal piping below slab heavy areas deck plates: Series number 4026U (or Approved Equal), cast iron body and frame with round adjustable scoriated, secured cast iron top, lead seal bronze plug, inside caulked. Use series number 4026U-F-C (or Approved Equal) with flashing flange and flashing device in waterproofed slab.
5. Horizontal piping below slab with carpeted flooring deck plates: Series number 4026X-U (or Approved Equal) cast iron body and frame round adjustable scoriated nickel bronze secured top, inside caulk with lead seal bronze plug. Use series number 4026-X-U-FC (or Approved Equal) with flashing flange and flashing device in waterproof slabs. Provide stainless steel carpet markers in carpeted areas locating cleanouts below.

2.2 DRAINS

A. General:

1. Floor drains for equipment not provided by this contractor are indicated diagrammatically on the drawings. Prior to drain installation, this Plumbing Contractor shall verify final equipment size and install drains clear of equipment.
2. Drains in waterproof slabs shall have flashing clamps with corrosion resistant bolts. Provide lead flashing.
3. Grate in quarry tile floors shall be square.
4. Use appropriate threaded to soil pipe connector when drain body is buried and outlet is threaded.
5. Use screw down grates in public traffic areas. All exposed screws shall be vandal proof.
6. All drains shall be of the same manufacturer.
7. Coordinate roof drain locations with roof low points to insure drainage and preclude puddling.
8. Frames and grates shall be uninterrupted with no visible fastenings when veneered finish is employed.
9. J.R. Smith figure number are specified. Equal drains manufactured by Zurn or Josam will be accepted.

B. Floor Drains:

1. Toilet room and shower drains: (all unless otherwise noted on drawings) Figure 2010A (or Approved Equal), cast iron body, flashing collar, highly polished nickel bronze top and adjustable strainer head, inside

caulked bottom outlet. 2" shower drain shall have 5" diameter strainer; 3" drain shall have 7" diameter strainer. Use 6" x 6" 'K' heavy duty grate where installed in tiled floors.

2. Deep body floor drain type Mechanical equipment rooms: Figure number 2360(or Approved Equal), 12" top cast iron body, adjustable top flashing device, loose set grate removable sediment bucket, auxiliary drainage openings, and inside caulked bottom outlet. Use nickel bronze top and grates for finished area, (kitchens, peelers, can washer, etc.) and cast iron grates elsewhere.
3. Medium depth body floor drain: Figure number 2350 (or Approved Equal), 8 1/2" top cast iron body, adjustable top flashing device, loose set grate 3 3/8" minimum depth, removable sediment bucket, auxiliary drainage openings, and inside caulked bottom outlet. Use nickel bronze top and grates for finished areas, (kitchen etc.) and cast iron grates in public traffic areas.

2.3 VACUUM BREAKERS

- A. Provide vacuum breakers for all hose end faucets, on piping supplying fixtures and equipment below the overflow level, interconnections with other systems such as make-up water supplies to heating or cooling systems and connections subject to back pressure.
- B. Vacuum breakers shall be equal to Watts Model No. 9D for 1/2" size.
- C. Vacuum breakers shall be watts Series 900 or approved equal by BECO or CLA-Valve. Vacuum breaker in finished areas shall be chrome-plated.
- D. Hose bibbs for drainage of low points of piping system are exempt from vacuum breaker requirements.

2.4 FRESH AIR VENT

- A. Chrome plated cast bronze with pipe expander, spanner lock and vandalproof over screw equal to J.R. Smith Model 9005. Locate at least 18 inches above finish grade.

2.5 VENTS - AIR

- A. Automatic vents at high points of circulation piping and as indicated on the drawing shall be float operated type. Install shut-off valve between vent and piping. Extend 1/4" O.D copper drain tube to nearest floor drain or service sink. Vents shall be Hoffman #78 Maid-O-Midst, #71, or approved equal with 150 psi operating pressure.

2.6 SHOCK ABSORBERS

PLUMBING SYSTEM ACCESSORIES

- A. Provide on toilet room hot and cold water branches at quick closing valves, and where shown on the drawings shock absorbers as manufactured by J.R. Smith or equal as approved by the Commissioner. Install the shock absorbers immediately adjacent to the control valves. Contractor shall submit a complete schedule of shock absorbers, size and locations. Selections shall be made in accordance with PDI Standard WH-201 by the manufacturer their selections guaranteed.

2.7 STRAINERS

- A. McAlear, Spence, Adscro or Crane, or equal as approved by the Commissioner, Y type, cast bronze body up to 2 1/2" and over 200 psi working pressure. Provide gate valve on blow-off full size but not larger than 2".
- B. Strainers in water piping shall have No. 20 mesh-400 holes per square inch monel basket.
- C. Strainers in gas piping shall have No. 40 mesh-1600 holes per square inch monel basket.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Cleanouts shall be accessible and provided at the foot of each soil, waste, or leader stack, on all handholes of running traps and at each change of direction of horizontal run and on horizontal runs of pipe as required by the Code.
- B. All threaded plugs of cleanouts shall be installed with graphite being used as a lubricant. No pipe joint compound shall be used for such purpose.
- C. Cleanouts on three (3) inch or larger pipes shall be so installed that there is a clearance of not less than eighteen (18) inches for the purpose of rodding. Cleanouts smaller than three (3) inches shall be so installed that there is a twelve (12) inch clearance for rodding.
- D. Cleanouts shall be of the same nominal size as the pipes that serve up to four (4) inches and not less than four (4) inches for larger piping.
- E. Cleanouts occurring in membrane waterproof slabs, monolithic slabs, etc., shall be provided with flashing rings. Also provide lead flashing.
- F. All exposed screws shall be vandalproof.
- G. All drains shall be of gray cast iron with Duco coat finish.
- H. Drains shall be bottom outlet connections unless otherwise indicated. In membrane waterproof floors, drains and cleanout deck plates shall be provided with an approved type flashing clamping device. nickel, bronze or chrome plated finish specified hereinafter shall be of high polished finish unless otherwise

specified. Drains in public areas shall be provided with vandalproof grates. Drains in areas with structural and wearing slabs shall be provided with extensions to suit. Prior to drain installation, refer to Commissioner's drawings and specifications for floor construction and finishes.

- I. Floor drains for equipment are indicated diagrammatically on the drawings. Prior to drain installation, verify final equipment sizes and install drains clear of equipment and concrete pads.

END OF SECTION

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SECTION 224000 - PLUMBING FIXTURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Contract Documents: The work of this section shall comply with the Contract Documents, including the General Conditions, the Supplementary Conditions and Division 01 - General Requirements.

1.2 SUMMARY

- A. General: Provide all labor, materials and services required for the work indicated on the drawings and specified in this section.
- B. Work Included: The work includes, but is not necessarily limited to, the following:

Work under this Section of the Specifications shall consist of providing all labor, material equipment and appurtenances, unless hereinafter specifically exempted, necessary for an incidental to the execution and completion of the Plumbing Piping Systems and accessories as indicated on the drawings and specified herein.

Description of the Work:

- 1. Plumbing fixtures.
- 2. Plumbing trim.
- C. Related Work
 - 1. Plumbing piping.
 - 2. General Construction

1.3 WARRANTY

- A. Special Manufacturer's Warranty: Provide manufacturer's standard form in which manufacturer agrees to repair or replace products that fail in materials or workmanship during the following period after substantial completion:
 - 1. Warranty Period: Fifteen (15) years from substantial completion.

PART 2 - PRODUCTS

2.1 QUALITY

- A. American standard and Moen fixture model numbers are indicated to establish type and quality, but comparable fixtures will be acceptable equals. Fixtures shall be white, unless otherwise noted.
- B. Fixtures shall be of the first quality as fabricated by a manufacturer of established reputation.
- C. Trim which includes faucets, strainers, escutcheons, lavatory supplies, etc., shall be made of brass and shall be polished chromium-plated. Material specified as chromium-plated shall be thoroughly and evenly applied and guaranteed not to strip or peel. Chromium-plating on plumbing fixture trim shall be in accordance with Federal Specification WW-P-541b for grade "R" plating. Manufacturer shall submit certification that all chrome-plating on finished trim meets aforementioned Federal Specification. Plated work shall be highly buffed. Plastic, zinc or white metal will not be approved.
- D. All fixtures shall be separately controlled by individual stops.
- E. Faucets shall have indexes.
- F. All trim shall be permanently stamped with manufacturer's identification and visible after installation.
- G. Faucets on plumbing fixtures including, but not limited to lavatory shall have renewable seats made of monel metal. The washer hold-down screw shall be made of monel metal.

2.2 FIXTURE CARRIERS

- A. Wall hung fixtures shall be securely supported on approved commercial grade carriers as manufactured by J.R. Smith or approved equal or in accordance with the recommendations of the manufacturer and approval of the Commissioner.
- B. Fixture carrier legs shall be clear of walls in chase and secured to floor construction with expansion bolts through all bolt holes. Carrier feet shall not extend beyond finished face of partition unless completely recessed in rough slab.
- C. Wall hung water closet carrier shall be for siphon jet closet and shall include adjustable extension with gasket, studs, hardware and chrome plated cap nuts necessary to secure fixture to the support and shall be fitted with buttress of block base support bolted to floor so carrier will not depend on wall construction for support. The carrier shall be used in conjunction with approved type drainage fitting with 2 inch vent connection and shall be single or double, horizontal or vertical, left or right hand as required.

- D. Urinals shall be supported on chair carrier with block base supported bolted to floor, top plate for supporting concealed fixture hangers and through bolts, steel pipe uprights, adjustable sleeves and alignment truss or in accordance with the recommendations of the manufacturer and the approval of Commissioner.
- E. Wall hung lavatories shall be supported on concealed chair carrier, single or double as required, with block base bolted to floor, steel pipe uprights, adjustable arms, sleeves with concealed arms, and alignment truss. Slab type lavatories shall be furnished with 2 inch chrome plated escutcheon with locking device. Carrier arms shall be provided with leveling device and locking device.
- F. All urinal, lavatory and sink carriers occurring within dry wall construction shall be modified to have uprights extended to ceiling slab and secured with block bases or provide steel tubing upright carriers designed for dry wall construction or in accordance with the recommendations of the manufacturer and the approval of the Commissioner.

2.3 FIXTURE TYPES

- A. Every fixture shall be provided with stop valves, supply pipes and proper size "P" traps. All exposed trim shall be chromium plated on nickel on brass. China used shall be best quality, regulation selection, genuine, Lilite, free of chips, crazing or discoloration. Cast iron fixtures of best quality white acid-resisting enameled. Faucets shall have renewable seats, composition washers and all metal indexed handles. All traps shall be cast brass with clean outs. All fixtures shall be acid-resisting enameled.
- B. Provide specified fixtures as follows or approved equal:
 - 1. Urinals:
 - a. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - i. American Standard Allbrook FlowWise 6550.505; Sloan; Koher or approved equal
 - 1. Electronic flush valve
 - 2. Battery operated
 - 2. Toilets:
 - a. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - i. American Standard MADERA FlowWise 3451.528; Sloan; Koher or approved equal
 - 1. 1.28 gpf; 15" height to top spud bowl
 - 2. Electronic flush valve
 - 3. Battery operated
 - ii. American Standard MADERA FlowWise 3043.528; Sloan; Koher or approved equal
 - 1. ADA Compliant

2. 1.28 gpf; 16-1/2" height top spud bowl
3. Electronic flush valve
4. Battery operated

3. Lavatories:

- a. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - i. American Standard ORBIT 0630.000; Sloan; Koher series or approved equal
 1. 394 mm dia. (15-1/2") Round

4. Lavatory Faucets:

- a. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - i. DELTA series ARZO 601T050 Sloan; Koher or approved equal
 1. Battery operated
 2. Hands free sensor

PART 3 - EXECUTION

3.1 CONNECTION

- A. Each fixture shall be separately trapped.
- B. Fixtures requiring hot and cold water shall have the cold water faucet on the right hand side of the fixture and the hot water faucet on the left hand side of the fixture.

3.2 INSTALLATION

- A. Protect plumbing fixtures included in these specifications against injury from the building materials, acids, tools and equipment.
- B. Plated or polished fittings, pipes and appliances shall be coated with Vaseline, immediately after installation and shall be finally polished and freed from all marks and foreign substances, when directed by the Commissioner.
- C. Prior to building's acceptance by the City of New York, remove manufacturers' labels and thoroughly clean all fixtures and make ready for use by building's occupants.
- D. Install Speakman S-5911 (or Approved Equal) 1/2 inch chrome plate hose bibb modified with plain end less vacuum breaker and key operated, on cold water supply in each toilet room that has a floor drain (whether indicated or not). Install vacuum breaker separately at 6'-0" AFF.
- E. Set fixture rim height as specified or as directed by the Commissioner.

- F. All toilet seats shall be of color as specified by the Commissioner. Equal toilet seats with self-sustaining and check hinges as manufactured by Church or Olsonite will be approved.
- G. Equal flush valves, manufactured by Coyne-Delaney "Flushboy" will be approved.
- H. Thoroughly review all contract documents and determine extent of miscellaneous fixtures, toilet accessories, etc., specified in other sections of the specifications and include in bid proposal all material and labor required to install the items specified in other sections and/or claimed by this trade.

END OF SECTION

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SECTION 230500 - COMMON WORK RESULTS FOR HVAC

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Contract Documents: The work of the Section shall comply with the other Contract Documents including the General Conditions, the Supplementary Conditions and Division 1 - General Requirements.

1.2 DIVISION OF RESPONSIBILITY

- A. The requirements this section are intended for the party or parties who have been duly awarded the applicable portion of work to be performed under the indexed sections of Division 23 also known as the Heating, Ventilating and Air Conditioning Work.

1.3 REFERENCE STANDARDS

- A. Compliance with the following standards shall be required:

- | | | |
|-----|------|---|
| 1. | USAS | USA Standards Institute (Formerly ASA) |
| 2. | AMCA | Air Moving and Conditioning Association |
| 3. | ADC | Air Diffusion Council |
| 4. | NEMA | National Electrical Manufacturers Association |
| 5. | FM | Factory Mutual |
| 6. | NFPA | National Fire Protection Association |
| 7. | ASTM | American Society for Testing Materials |
| 8. | UL | Underwriters Laboratories, Inc. |
| 9. | NEC | National Electrical Code |
| 10. | ASME | American Society of Mechanical Engineers |
| 11. | ANSI | American National Standards Institute |
| 12. | OSHA | Occupational Safety and Health Act |

1.4 DEFINITIONS

- A. "Provide" means furnish and install, complete, the specified material, equipment or other item and perform all required labor to make a finished installation.
- B. "Furnish and install" has the same meaning as given above for "Provide".
- C. Refer to General Conditions for other definitions.
- D. Reference by abbreviation may be made in the Specifications and the Contract Drawings for Mechanical and Electrical Work in accordance with the following list:

HVAC	Heating, Ventilating and Air Conditioning
GC	General Contractor
AC	Air Conditioning
H & V	Heating and Ventilating
AWG	American Wire Gauge
BWG	Birmingham Wire Gauge
USS	United States Standard
PSIG	Pound Per Square Inch Gauge
MBH	Thousand BTU Per Hour
BTU	British Thermal Units
LB	Pound (Also shown as #)
ASME	American Society of Mechanical Engineers
ASTM	American Society of Testing Materials
ASA	American Standards Associates
SMACNA	Sheet Metal and Air Conditioning Contractors National Association, Inc.

See Drawings for additional abbreviations.

1.5 REVIEW OF CONTRACT DOCUMENTS AND SITE

- A. General Contractor shall give written notice to the City of New York of any materials or apparatus believed inadequate or unsuitable, in violation of laws, ordinances, rules of regulations of Authorities having jurisdiction, and any necessary items of work omitted. In the absence of such written notice it is mutually agreed that the General Contractor has included the cost of all required items in his proposal for a complete project.
- B. General Contractor shall acknowledge that he has examined the Plans, Specifications and Site, and that from his own investigations he has satisfied himself as to the nature and location of the work; the general and local conditions; and all other matters which can in any way affect the work or the cost thereof under this Contract. Any failure by the General Contractor to acquaint himself with the available information concerning these conditions will not

relieve him from the responsibility for estimating properly the difficulty or cost of successfully performing the work.

- C. City of New York assumes no responsibility for an understanding or representation made during or prior to the negotiation and execution of this Contract unless such understanding or representations are expressly stated in the Contract, and the Contract expressly provides that the responsibility, therefore, is assumed by the City of New York.

1.6 MEASUREMENTS

- A. General Contractor shall base all his measurements, both horizontal and vertical from established bench marks. All work shall agree with these established lines and levels. He shall verify all measurements at site; and check the correctness of same as related to the work.

1.7 LABOR AND MATERIALS

- A. All materials and apparatus required for the work shall be new, of first-class quality, and shall be furnished, delivered, erected, connected and finished in every detail, and shall be so selected and arranged as to fit properly into the building spaces.
- B. General Contractor shall remove all materials delivered, or work erected, which does not comply with Contract Drawings and Specifications, and replace with proper materials, or correct such work as directed, at no additional cost to the City of New York.
- C. General Contractor shall not employ men or means in connection with this Contractor which may cause strikes or cessation of work of mechanical employed by other trades.

1.8 COVERING WORK

- A. No work of any kind shall be covered up or hidden from view before it has been examined or approved by the Commissioner, and/or other authority having jurisdiction over same. Any unfaithful or imperfect work or inferior materials discovered shall be removed and corrected immediately after being condemned.

1.9 PROTECTION

- A. General Contractor shall protect the work and material of all trades from damage by his work or workmen, and shall replace all damaged material with new.
- B. General Contractor shall be responsible for work and equipment until his work is finally inspected, tested, and accepted; he shall protect his work against theft,

injury or damage; and carefully store material and equipment received on site which is not immediately installed; close open ends of work with temporary covers or plugs during construction to prevent entry of obstructing material.

1.10 COORDINATION

- A. HVAC Subcontractor shall prepare preliminary shop drawings suitable for use in coordinating his work with the work of other trades. The HVAC Section shall prepare and furnish prints at $3/8" = 1'-0"$ scale with all trades indicating new and existing piping and ductwork in relation to all structural elements of the construction, including floor elevations; steel locations, size, and elevations; partitions locations; door locations and direction of swing; and all other information required to assure coordination of the electrical, sheetmetal and piping trades and fire protection in relation to the Architectural function of the project. Coordination meetings shall be held under the supervision of the General Contractor. Each trade shall have proper representative at all coordination meetings for the purpose of detailing, on the sepia print mentioned above, the exact location and routing of their work. After the conclusion of the coordination at the working meetings, each trade shall sign the coordinated sepia, copies of which shall be distributed by the GC to all trades shall be in accordance with the coordinated drawing, which final shop drawings shall be submitted for final approval.
- B. If the General Contractor installs work so as to cause interference with work of other trades, he shall make necessary changes in work to correct the condition without extra charge.
- C. Dimensional layout plans of equipment rooms shall be made showing all bases, pads and inertia blocks required for mechanical equipment. Include dimensions of bases, bolt layouts, details, etc.
- D. HVAC Subcontractor shall furnish all necessary templates, patterns, etc., for installing work and for purpose of making adjoining work conform, furnish setting plans and shop details to other trades as required.

1.11 ACOUSTICAL PERFORMANCE OF EQUIPMENT AND SYSTEMS

- A. Noise levels from operation of motor driven equipment, whether airborne or structure-borne, and noise levels created by or within air handling equipment and air distribution and control media, are not to exceed sound pressure levels determined by the noise criteria curves in the ASHRAE guide.
- B. Acoustical Tests:

1. City of New York may conduct room sound tests for those areas he deems too noisy.
2. If NC level in any space exceeds that in the schedule or the specification due to improper installation or operation of mechanical systems, the respective trade is required to make remedial changes or repairs.
3. Respective Trade is required to retest until specified criteria has been met.

PART 2 - PRODUCTS

Not Used.

PART 3 - EXECUTION

3.1 SCOPE OF WORK

This specification is intended to cover all the labor and material necessary for proper installation of the following work:

- A. Provide exhaust systems and return/exhaust systems including all ductwork, hangers and accessories.
- B. Provide duct work, diffusers, registers, dampers, insulation, acoustic lining, accessories, etc., as specified herein or as indicated on the drawings.
- C. All necessary hangers for ducts, equipment and piping.
- D. All temperature controls including control wiring.
- E. Testing, adjusting and balancing of all systems.
- F. Shop drawings.
- G. Record drawings.
- H. As-built drawings.
- I. Add memo.

3.2 WORK EXCLUDED

- A. Power wiring
- B. Exterior wall louvers

END OF SECTION

SECTION 230513 - COMMON MOTOR REQUIREMENTS FOR HVAC EQUIPMENT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Contract Documents: The work of this section with the Contract Documents, including the General Conditions, the Supplementary Conditions and Division 1 - General Requirements.

1.2 SUMMARY

- A. General: Provide all plant, labor, tools, appliances, equipment, materials and services required for the work indicated on the drawings and specified in this section.
- B. Work Included: The work includes, but is not necessarily limited to the following:
 - 1. Providing all motors and motor controls as specified herein, as indicated on the drawings, and as needed for a complete and proper installation.
- C. Related Work: The following related items are specified in other sections of the specifications:
 - 1. Centrifugal HVAC Fans Section 233416
 - 2. Instrumentation and Control for HVAC Section 230900
 - 3. Sequence of Operations for HVAC Controls Section 230993

1.3 QUALITY ASSURANCE

- A. Manufacturer's Qualifications: Firms regularly engaged in manufacture of motors and motor controls of types and sizes required, whose products have been in satisfactory use in similar service for not less than 3 years.
- B. Codes and Standards:
 - 1. UL Compliance: Construct motors and motor controls in compliance with UL Standards. All electrical components shall be UL listed or labeled.
 - 2. NEC: All fans shall be AMCA certified.
 - 3. NEMA: All electrical devices shall conform to NEMA standards.

4. NEC: All wiring shall conform to the NEC.

1.4 SUBMITTALS

- A. Product Data: Catalog cuts, specifications, installation and instructions.
- B. Schedule: List manufacturer, unit type, model number, and performance data for each motor control device unit along with their location.
- C. Wiring Diagrams: Submit manufacturer's electrical requirements for power supply wiring to motor control device. Submit manufacturer's wiring diagrams for interlock and control wiring. Clearly differentiate between portions of wiring that are factory-installed and portions to be field installed.
- D. Motors furnished, as part of packaged units shall be standard with the unit manufacturer.

1.5 DELIVERY, STORAGE AND HANDLING

- A. Handle motors and controls carefully to prevent damage, breaking, denting and scoring. Do not install damaged units or components; replace with new.
- B. Store motor controls units in clean dry place. Protect from weather, dirt, fumes, water, construction debris and physical damage.
- C. Comply with manufacturer's installation instructions.

PART 2 - PRODUCTS

2.1 GENERAL

- A. Motors
 - 1. All motors shall conform to the requirements listed herein.
 - 2. Each motor shall have capacity to start and operate machine it drives without exceeding motor nameplates rating at the speed specified or at any speed and load which may be obtained by drive provided.
 - 3. Each motor that is provided with automatic control shall be capable of making as frequent starts as control device demands without damage and without exceeding the maximum permissible hot spot temperature. Motors not provided with automatic control shall be capable of making not less than 4 starts per hour without damage and without exceeding the maximum permissible hot spot temperature.
 - 4. All belt-connected motors shall be equipped with shafts and bearings that will withstand both the belt pull of drive furnished and momentary or continuous overloads due to acceleration or incorrect belt tension.

5. Motors shall be rated for continuous duty at 100 percent of rated capacity, and temperature rise shall be based on an ambient temperature of 40 degrees centigrade. Service factors shall be as follows:

Open Drip Proof Enclosure	1.15
Totally Enclosed Fan Cooled	1.00
Encapsulated Windings	1.00

6. One-half horsepower and larger motors shall be three phase and motors smaller than one-half horsepower shall be single phase. See schedule drawings for details.

- a. Three phase motors shall be Type II - Polyphase, Class B insulated, Style A2 (ODP or B2 TEFC) NEMA Design B, squirrel cage induction type in accordance with Federal Spec. CC-M-641d, September 1, 1964.

7. Unless otherwise specified, single phase motors shall be of open, capacitor start type and shall be in accordance with Federal Spec. CC-M-641d, or CC-M-636C. Single phase motors shall be wound for 115 volts, 60 cycle alternating current and may be either single or dual voltage type. In lieu of capacitor start type, 1/6 horsepower and smaller motors may be of the split-phase type except for fan coil units.

8. Motor leads shall be terminated with solderless pressure type connectors in accordance with Federal Spec. W-S-610b.

9. Each direct-connected motor shall be mounted in accurate alignment. The drive shall be free from both angular and parallel misalignment when both motor and driven machine are operating at operating temperatures. Each belt-connected motor shall be provided with an adjustable base to permit installation and adjustment of belts.

10. Insulation resistance between starter conductors and frames of motors at time of final inspection shall be not less than one-half megohm.

11. No shop test of motors will be required but the temperature rise, insulation resistance and general operating characteristics shall be witnessed by the Commissioner at the time of final inspection.

12. Motors shall have cast terminal boxes for watertight flexible watertight connections.

13. Motors weighing over 25 pounds shall be provided with lifting eyes. Bases shall be cast iron frame mounted except where motor frame is attached directly to the load machinery base.

14. Enclosure for motors shall be as follows:
Dry, indoor locations, open drip proof.

Outdoor, 1/2 through 20 horsepower - totally enclosed.

15. Motors shall be single speed as indicated on the drawings.
16. Motors shall have proper characteristics to suit specified makes of equipment. Unless indicated otherwise, the motor horsepower shown shall be the minimum acceptable and the motor speed the maximum acceptable. Motor speed shall be 1800 RPM unless otherwise indicated.
17. Motors and accessories shall comply in all respects with ANSI, MEC and NEMA Standards.
18. Motors size 1 to 25 HP shall be energy efficient type, Gould E-plus, Westinghouse "MAC 11" or Louis Allis "Pacemaker Spartan" or equal.
19. Acceleration time (zero to synchronous speed) shall not exceed 15 seconds.
20. Locked rotor code letter designation (KVA/HP) for all motors shall not exceed "F".
21. All motors shall have sealed bearings.

2.2 POWER FACTOR CORRECTION

- A. All motors, 1 1/2HP and larger, having a power factor less than 85%, shall be corrected to at least 90% under rated load conditions. By the use of Power factor correction equipment furnished and installed by this Section of the work. Power factor corrective devices shall be switched with the motors except where this results in an unsafe condition or interferes with the intended operation of the equipment.

2.3 NAMEPLATE DATA

- A. The motor nameplate and connection diagram shall be stainless steel and contain the following information:

Manufacturer's name
Rated volts and full load current
Rated frequency and number of phases
Rated full load speed
Rated temperature rise and rated ambient temperature
Time rating
Rating horsepower
Locked rotor code letter
NEMA design letter
Service factor

1. Motors starting on wye connection and running on delta, shall be marked with the code letter corresponding to the wye connection.
2. Dual voltage motors, which have a different locked rotor KVA on the two voltages, shall be marked with the code letter for the voltage giving the highest locked rotor KVA.

B. In general, motors shall be furnished integrally mounted on all items of mechanical equipment.

2.4 MOTOR STARTERS AND CONTROLS

A. All motor controllers and starters integral with equipment or furnished as part of the equipment control panel shall be in accordance with the following:

1. Each controller, mounted in NEMA type enclosure shall be suitable for the particular service and/or location as approved.
2. Provide HOA switch in starter covers for all motors automatically controlled. Pushbuttons not required where HOA switches are used.
3. Provide control circuit fusing in all controllers.
4. Provide all necessary auxiliary contacts and transformers in starters as required. Provide time delay relays for all interlocked motors.
5. All pilot lights shall be incandescent; candelabra base receptacles, with red or green jewel as approved. Provide pilot lights where required as follows:
 - a. Starters with start-up pushbutton: 1 pilot light to indicate "Motor On".
 - b. Starters with HOA switches: 1 pilot light to indicate "Motor On".
6. All motor controllers and starters individually mounted shall be of the following type:
 - a. Combination fused or unfused disconnect switch and magnetic unfused controller with overload protection and low voltage protection.
 - b. Manual toggle switch operation 2 pole or single pole starter with overload protection in approved NEMA enclosure. Where motors are installed remote from starters, provide pilot light.
7. Provide all starters with reset button in cover and overload protection. For 3 phase starters, all three phases shall have overload protection.
8. Provide current limiting fuses in all units requiring fuse protection to suit the Selective Protection System on this job.

9. Enclosure sizes and wiring terminals shall be suitable for the application of both copper and aluminum power control circuit wires.
10. Starters shall be subject to the approval, as to limit of inrush current, as set up by the Utility Company. In general, magnetic starters shall be located close to the equipment controlled.
11. Motor starters for motors 1/2 HP and over and all automatically controlled motors shall be magnetic across the line type.
12. Motor starters for motors smaller than 1/2 HP and not automatically controlled shall be manual thermal overload switch type.

2.5 FACTORY FURNISHED CONTROL PANELS

- A. The packaged control panel furnished with packaged units shall be provided with a circuit breaker and a magnetic starter with three (3) overloads for each motor. The incoming line lugs shall be arranged to accept a separate branch circuit to each circuit breaker. A control power transformer shall be provided and served via a transfer relay with power taken from the load side of each incoming line circuit breaker.

PART 3 - EXECUTION

3.1 GENERAL

- A. Motors installed, not in strict compliance with the above, shall be replaced at no cost to the The City of New York.

3.2 ELECTRICAL WIRING

- A. Provide all necessary wiring diagrams indicating wire size and connections as required for the proper operation of the equipment.
- B. Contractor shall be responsible for replacing all fuses in the electrical systems during construction, which blow due to tests or malfunction of his motorized or other electrical equipment.

END OF SECTION

SECTION 230548 - VIBRATION CONTROLS FOR HVAC PIPING & EQUIPMENT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Contract Documents: The work of this Section shall comply with the Contract Documents, including the General Conditions, the Supplementary Conditions and Division 1 - General Requirements.

1.2 SUMMARY

- A. General: Provide all plant, labor, tools, appliances, equipment, materials and services required for the work indicated on the drawings and specified in this Section.
- B. Work Included: The work includes, but is not necessarily limited to the following:
 - 1. Vibration isolation elements for piping and equipment.
 - 2. Equipment isolation bases.
 - 3. Piping flexible connections.
- C. Related Work Specified in Other Sections:
 - 1. Common Work Results for HVAC Section 230500
 - 2. Centrifugal HVAC Fans Section 233416

1.3 QUALITY ASSURANCE

- A. It is the objective of this Specification to provide the necessary design for the control of excessive noise and vibration in the Building due to the operation of machinery or equipment, and/or due to interconnected piping, ductwork or conduit. The installation of all vibration isolation units, and associated hangers and bases, shall be under the direct supervision of the vibration isolation manufacturer's representative.
 - 1. All vibration isolators shall have either known undeflected heights or calibration markings so that, after adjustment, when carrying their load, the deflection under load can be verified, thus determining that the load is within the proper range of the device and that the correct degree of vibration isolation is being provided according to the design.

2. All isolators shall operate in the linear portion of their load versus deflection curve. Load versus deflection curve. Load versus deflection curves shall be furnished by the manufacturer, and must be linear over a deflection range of not less than 50% above the design deflection.
3. The theoretical vertical natural frequency for each support point, based upon load per isolator and isolator stiffness, shall not differ from the design objectives for the Equipment as a whole by more than + 10%.
4. All neoprene mountings shall have a Shore hardness of 30 to 60 +5, after minimum aging of 20 days or corresponding oven-aging.

1.4 SUBMITTALS

A. Product Data

Submit manufacturer's product data and installation instructions for each type of vibration isolation.

Submit schedule showing manufacturer's mounting sizes and guarantee deflections noted on the drawings.

B. Shop Drawing

Submit shop drawing for the vibration isolating supports required for each item of HVAC equipment, showing the types of isolation supports, equipment bases being furnished and the static deflection and efficiency to be attained.

C. Maintenance Data

Submit maintenance data and material lists for each type of vibration isolation system. Include this data, product data and shop drawings in maintenance manual in accordance with requirements of Division 1.

1.5 DELIVERY, STORAGE AND HANDLING

- A. Deliver isolation units to project site in original, unopened packages and store them in fully enclosed space where they will be protected against damage.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Subject to compliance with requirements, manufacturers offering vibration isolators and bases which may be incorporated in the work include the following:
Mason Industries, Inc.
Vibration Eliminator Co.
Vibration Mountings & Controls Inc.

2.2 MATERIALS

A. Spring Mounts:

1. **Housed Spring Mounts:** Spring type mounts shall consist of cast telescoping housings containing one or more steel springs. The mount shall be provided with built-in leveling bolt(s), resilient inserts of neoprene to act as guides for upper and lower housing and with ribbed neoprene acoustical pads bonded to the bottom of the lower housing. The lower housing shall have slotted holes in the base, to permit fastening of the mount to the floor when specified.
2. **Free standing spring mounts** shall be laterally stable without housing. Each mount shall be provided with a leveling bolt, a ribbed neoprene pad on the underside of the base, and means of securing the spring to the floor when specified.

B. Neoprene-in-Shear Mounts

Each neoprene-in-shear type mount shall consist of a steel top plate and steel base plate completely enclosed in oil resistant neoprene. Top plate shall have a threaded bolt hole for attachment of equipment to mount. Base plate shall have bolt holes, to permit fastening of the mount to the floor when specified. Underside of base plate shall have ribbed, neoprene construction. Single neoprene-in-shear mounts shall have a maximum deflection of 0.25 inches. Double neoprene-in-shear mounts shall have a maximum deflection of 0.50-inches.

C. Hanger Type Isolators

Hanger type isolators shall consist of a steel housing incorporating a single or double neoprene-in-shear element or a steel spring, or a combination of these two isolators, as needed to achieve the required static deflection. Provide threaded rods for attachment of hanger to overhead structure and to equipment.

D. Steel Bases

1. **Integral structural steel bases** for belt driven centrifugal fans shall be rectangular in shape, and each member shall be of wide flange beam or channel shaped cross-section. Based for fans having motors in the X or Y position may be of "L" shape configuration. Depth of section shall be equal to minimum of 1/10th of the longest span of the equipment. Built-in adjustable motor slide rails shall be provided as an integral part of the base. Joints shall be continuously welded.

PART 3 - EXECUTION

3.1 PREPARATION

- A. For vibration isolation equipment installed indoors, all metal parts, including rails and bases, shall be painted at the factory with one coat of red oxide paint and one coat of aluminum paint. Other means or rust resisting painting may be accepted, subject to prior approval.
- B. Vibration isolation equipment installed outdoors shall have all steel parts hot dipped galvanized, all bolts cadmium plated, and all springs cadmium plated and neoprene coated.

3.2 INSTALLATION

- A. At each equipment location, provide the required deflection under the imposed load and produce uniform loading and deflection even when equipment weight is not evenly distributed. Jack bases into position and wedge in place before spring loading; leveling bolts shall not be used as jacking screws. After equipment is in place and springs are loaded through leveling bolts, remove wedges and jacks. Isolators shall be suitable for the lowest operating speed of the equipment.
- B. Where the floor is waterproofed or finished with waterproof cement, install vibration isolation in such manner that the waterproofing is not damaged.
- C. Isolation equipment shall be in accordance with the following table:

Lowest RPM	Inches Deflection (Min.)	% Efficiency	Type
1750 & over	.25	95	Single neoprene-in- shear
1200 - 1749	.50	95	Double neoprene-in- shear
1100-1199	.75	95	Spring
570-999	1.25	90-95	Spring
330-519	1.5	80-90	Spring
Up to 329	3.5	80	Spring

- D. Install combination spring and double deflection neoprene position hangers on the suction and discharge piping at each circulating pump in the hot and/or chilled water system. Each hanger shall be located on the pump side of the flexible hose connection.

3.3 FIELD QUALITY CONTROL

A. On completion of the vibration isolation system herein specified. The representative of the vibration isolation manufacturer shall inspect the completed systems and report in writing any installation error, improperly selected isolation devices, or any other faults that could affect performance. Submit report indicating steps taken to properly complete the isolation work. Both of these reports shall be reviewed by the Commissioner for final approval.

3.4 SCHEDULE

- A. Provide vibration isolation supports for HVAC equipment as indicated in this schedule.

Equipment	Location	Type of Support
Centrifugal fans, belt driven	Roof mounted	Integral steel base with isolators

* D.D. = Double Deflecting

END OF SECTION

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SECTION 230553 - IDENTIFICATION FOR HVAC PIPING AND EQUIPMENT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Contract Documents: The work of this section shall comply with the Contract Documents, including the General Conditions, the Supplementary Conditions and Division 1 - General Requirements.

1.2 SUMMARY

- A. General: Provide all plant, labor, tools, appliance, equipment, materials and services required for the work indicated on the drawings and specified in this section.
- B. Work Included: The work includes, but is not necessarily limited to the following:
 - 1. Provide all the mechanical identification for work indicated on the drawings and as specified in other Sections. The types of identification devices specified in this section included the following:
 - Painted Identification Materials
 - Plastic Tape
 - Plastic Duct Markers
 - Engraved Plastic-laminate Signs
 - Plastic Equipment Markers
 - Plasticized Tags.
 - 2. Mechanical identification furnished as part of factory-fabricated equipment, is specified as part of the equipment assembly in other Division 23 Sections.
- C. Related Work: The following related items are specified in other sections of the specifications:
 - 1. Ductwork Insulation Section 230701
 - 2. Centrifugal HVAC Fans Section 233416
 - 3. Metal Ductwork Section 233113

1.3 QUALITY ASSURANCE

- A. Manufacturer's Qualifications: Firms regularly engaged in manufacture of identification devices of types and sizes required, whose products have been in satisfactory use in similar service for not less than three (3) years.
- B. Codes and Standards:
 - 1. ANSI Standards: Comply with ANSI A13.1 for lettering size, length of color field, colors, and viewing angles of identification devices.
 - 2. NYC Building Code: Comply with NYC Building Code, and the Board of Standards and Appeals for tag requirement of each valve.

1.4 SUBMITTALS

- A. Product Data: Submit manufacturer's product data and installation instructions for each identification material and device required.
- B. Samples: Submit samples of each color, lettering style and other graphic representation required for each identification material or system.
- C. Maintenance Data: Include product data and schedules in maintenance manuals in accordance with requirements of Division 1.

1.5 MAINTENANCE

- A. Furnish minimum of 5% extra stock of each mechanical identification material required.
- B. Where stenciled markers are provided, clean and retain stencils after completion of stenciling and include used stencils in extra stock along with required stock of stenciling paints and applicators.

PART 2 - PRODUCTS

2.1 MATERIALS AND MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, manufacturers offering mechanical identification materials which may be incorporated in the work include the following:

Allen Systems, Inc.
Brady (W.H.) Co.
Signmark Div.
Industrial Safety Supply Co., Inc.
Seton Name Plate Corp.

- B. Mechanical Identification Materials: Provide manufacturer's standard products of categories and types required for each application as referenced in other Division 23 sections, indicated on the drawings and/or schedules. Where more than single type is specified for application, selection is the Commissioner's option, but provide single selection for each product category.
- C. Painted Identification Materials:
1. Stencils: Standard fiberboard stencils, prepared for required applications with letter sizes generally complying with recommendations of ANSI A13.1 for piping and similar applications, but not less than 1 1/4" high letters for ductwork and not less than 3/4" high letters for access door signs and similar operational instructions.
 - a. Stencil Paint: Standard exterior type stenciling enamel except as otherwise indicated on the drawings; either brushing grade or pressurized spray-can form and grade.
 - b. Identification Paint: Standard identification enamel of colors indicated or, if not otherwise indicated for piping systems, comply with ANSI A13.1 for colors or selected by the Commissioner.
- D. Plastic Duct Markers:
1. Provide manufacturer's standard laminated plastic, color coded duct markers. Conform to the following color code if not specified:

Green: Cold air.
Yellow: Hot air.
Yellow/Green: Supply air.
Blue: Exhaust, outside, return and mixed air.
 2. Nomenclature: Include the following:
Direction of air flow.
Duct service (supply, return, exhaust, etc.)
Duct original (from).
Duct destination (to).
Design cfm.
- E. Plastic Tape:
1. Provide manufacturer's standard color-coded pressure-sensitive (self-adhesive) vinyl tape, not less than 3 mils thick.
 2. Width: Provide 1 1/2" wide tape markers on pipes with outside diameters (including insulation, if any) of less than 6", 2 1/2" wide tape for larger pipes.
 3. Color: Comply with ANSI A13.1, except where another color selection is indicated on the drawings or in the schedules.

F. Engraved Plastic-Laminate Signs:

Provide engraving stick melamine plastic laminate, complying with FS L-P-387, in the sized and thicknesses indicated, engraved with engraver's standard letter style of the sizes and wording indicated, black with white core (letter color) except as otherwise indicated on the drawings, punched for mechanical fastening except where adhesive mounting is necessary because of substrate.

1. Thickness: 1/8", except as otherwise indicated on the drawings or schedules.
2. Fasteners: Self-tapping stainless steel screws, except contact-type permanent adhesive where screws cannot or should not penetrate the substrate.

G. Plastic Equipment Markers:

1. Provide manufacturer's standard laminated plastic, color coded equipment markers. Conform to the following color code if not specified otherwise:

Green: Cooling equipment and components.

Yellow: Heating equipment and components.

Yellow/Green: Combination cooling and heating equipment and components.

Brown: Energy reclamation equipment and components.

Blue: Equipment and components that do not meet any of the above criteria.

2. Nomenclature: Include the following matching terminology on schedules as closely as possible:

Name and plan number.

Equipment service.

Design capacity.

Other design parameters such as pressure drop, entering and leaving conditions, rpm, etc.

3. Size: Provide approximate 2 1/2" x 4" markers for control devices, dampers and valves; and 4 1/2" x 6" for equipment.

H Plasticized Tags:

1. Manufacturer's standard pre-printed or partially pre-printed accident-prevention tags, of plasticized card stock with matt finish suitable for writing, approximately 3 1/4" x 5 5/8" with brass grommets and wire fasteners, and with appropriate pre-printed wording including large-size primary wording (as examples: DANGER, CAUTION, DO NOT OPERATE).

I. Lettering and Graphics:

1. Coordinate names, abbreviations and other designations used in mechanical identification work, with corresponding designations shown, specified or scheduled. Provide numbers, lettering and wording as indicated or, if not otherwise indicated, as recommended by manufacturers or as required for proper identification and operation/maintenance of mechanical systems and equipment.
2. Multiple System: Where multiple systems of same generic name are shown and specified, provide identification which indicates individual system number as well as service (as examples: Boiler No. 2, Air Supply No. 1).

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Coordination: Where identification is to be applied to surfaces which require insulation, painting or other covering or finish, including valve tags in finished mechanical spaces, install identification after completion of covering and painting. Install identification prior to installation of acoustical ceilings and similar removable concealment.
- B. Ductwork Identification:
 1. Identify air supply, return, exhaust and intake ductwork with duct markers; or provide stenciled signs and arrows, showing ductwork service and direction of flow, in black or white (whichever provides most contrast with ductwork color)
 2. Location: In each space where ductwork is exposed, or concealed only removable ceiling system, locate signs near points where ductwork originates or continues into concealed enclosures (shaft, underground or similar concealment), and 50' spacings along exposed runs.
 3. Access Doors: Provide duct markers or stenciled signs on each access door in ductwork and housings, indicating purpose of access (to what equipment) and other maintenance and operating instructions, and appreciate, and appropriate safety and procedural information.
 4. Concealed Doors: Where access doors are concealed above acoustical ceilings or similar concealment, plasticized tags may be installed for identification in lieu of specified signs at the Authority's option.
- C. Mechanical Equipment Identification:
 1. Install engraved plastic laminate sign or plastic equipment marker on or near each major item of mechanical equipment and each

operational device, as specified herein if not otherwise specified for each item or device. Provide signs for the following general categories of equipment and operational devices:

- a. Main control and operating valves, including safety devices.
- b. Meters, gages, thermometers and similar units.
- c. Pumps and similar motor-driven units.
- d. Coil heat exchangers and similar equipment.
- e. Fans, blowers and primary balancing dampers terminals.
- f. Package HVAC units and condensing units.
- g. Strainers, filters, water treatment systems and similar equipment.

2. Optional Sign Types: Where lettering larger than 1" height is needed for proper identification, stenciled signs may be provided in lieu of engraved plastic, at the Authority's option.

3. Lettering Size: Minimum 1/4" high lettering for name of unit where viewing distance is less than 2', 1/2" for distances is less than proportionally larger lettering for greater distances. Provide secondary lettering 2/3 to 3/4 of size of principal lettering.

4. Text of Signs: In addition to name of identified unit, provide lettering to distinguish between multiple units, inform operator of operational requirements, indicate safety and emergency precautions, and warn of hazards and improper operations.

5. Optional Use of Plasticized Tags: At the Authority's option, where equipment to be identified is concealed above acoustical ceiling or similar concealment, plasticized tags may be installed within concealed space to reduce amount of text in exposed sign (outside concealment).

- a. Operational valves and similar minor equipment items located in non-occupied spaces (included machine rooms) may, at the Authority's option, be identified by installation of plasticized tags in lieu of engraved plastic signs.

3.2 ADJUSTING AND CLEANING

- A. Adjusting: Relocate any mechanical identification device which has become visually blocked.
- B. Cleaning: Clean face of identification devices, and glass frame of all charts.

END OF SECTION

SECTION 230593 - TESTING FOR HVAC

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Contract Documents: The work of this section shall comply with the Contract Documents, including the General Conditions, the Supplementary Conditions and Division 1 - General Requirements.

1.2 SUMMARY

- A. General: Provide all labor, tools, appliances, equipment, materials and services required for the work indicated on the drawings and specified in this section.
- B. Work Included: The work includes, but is not necessarily limited to the following:

1. All the cleaning and testing for all the HVAC work done in this project, as specified herein, as indicated on the drawings, and as needed for complete and proper installation.

- C. Related Work: The following major related items are specified in other sections of the specifications.

- | | | |
|----|-----------------------|------------------|
| 1. | Centrifugal HVAC Fans | Section 233416 |
| 2. | Air Duct Accessories | Section 233300 |
| 3. | Balancing | Section 230593.1 |

1.3 QUALITY ASSURANCE

- A. Regulatory Requirements:
1. Perform factory testing of factory fabricated equipment in complete accordance with the City agencies having jurisdiction.
 2. Perform field testing of piping systems in complete accordance with all the City agencies having jurisdiction and as specified.

1.4 SUBMITTALS

- A. Quality Control Submittals
1. Test Reports (Field Tests):
 2. Refrigeration Systems: Submit test results on Refrigeration Systems Pressure.

1.5 PROJECT CONDITIONS

A. Protection

During test work, protect controls, gauges and accessories, which are not designed to withstand test pressure. Do not utilize permanently installed gauges for field testing of systems.

1.6 SEQUENCING AND SCHEDULING

A. Transmit written notification of proposed date and time of operational tests to the Commissioner at least 5 days in advance of such tests.

B. Perform cleaning and testing work in the presence of the Commissioner.

C. Pressure test piping systems inside building, at the roughing-in stage of installation, before piping is enclosed by construction work, and at other times as directed. Perform test operations in sections as required and directed, to progress the work in a satisfactory manner and not delay the general construction of the building. Valve or cap-off sections of piping to be tested, utilizing valves required to be installed in the permanent piping systems, or temporary valves or caps as required to perform the work.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Test Equipment and Instruments

Type and kind as required for the particular system under test.

B. Test Media (air, gas, refrigerant, vacuum, water)

PART 3 - EXECUTION

3.1 PRELIMINARY WORK

A. Thoroughly clean pipe and tubing prior to installation. During installation, prevent foreign matter from entering systems. Prevent if possible and remove stoppages or obstructions from piping and systems.

3.2 TESTING OF EQUIPMENT, APPARATUS AND APPURTENANCES

A. Damper

The dampers, deflectors, etc., shall be tested and adjusted during the balancing of systems work, but this work must be carried out by parties other than the person delegated to supervise the operation of the work and instruct the Authority's personnel. For details of damper adjustment, see Section 230593.1: Balancing.

B. Heating, Ventilating and Air Conditioning Systems - Cleaning and Operational Testing:

Test and balance all HVAC equipment in accordance with manufacturer installation instruction manual to perform as per specifications.

END OF SECTION

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SECTION 230593.1 - BALANCING FOR HVAC

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Contract Documents: The work of this section shall comply with the Contract Documents, including the General Conditions, the Supplementary Conditions and Division 1 - General Requirements.

1.2 SUMMARY

- A. General: Provide all plant, labor, tools, appliances, equipment, materials and services required for the work indicated on the drawings and specified in this section.
- B. Work Included: The work includes, but is not necessarily limited to, the following:
 - 1. Requirements for adjusting and balancing of all air distribution systems, including the equipment and devices associated with each system.
 - 2. The work includes setting speed and flow, adjusting equipment and devices installed for systems, recording data, preparing and submitting reports, and recommending modifications to the mechanical installation specified in other Sections of the Specifications.
- C. Related Work

The following related work is specified in other sections of the specifications, and is not part of the Work of this Section:

 - 1. Installation and start-up of equipment and devices to be adjusted and balanced.
 - 2. Pressure testing of ductwork systems.
 - 3. Electrical hook-up and wiring of equipment and devices to be adjusted and balanced.
- D. The HVAC Contractor shall retain the services of an independent testing, adjusting, and balancing agency meeting the qualifications as specified, to be the single source of responsibility to test, adjust, and balance the building mechanical systems identified in this project to produce the design objectives. Services shall include checking installations for conformity to design, measurement and

establishment of the fluid quantities of the mechanical systems as required to meet design specifications, and recording and reporting the results.

1.3 QUALITY ASSURANCE

- A. Entities performing the Work of this Section shall be certified by NEBB or ABBC and shall have experience on projects involving complexities similar to those required under this Contract.

1.4 SUBMITTALS

- A. Submit blank forms of reports indicating all data to be included.
- B. Submit certified reports, signed by the authorized representative of the balancing specialist. Submit final testing and balancing results on applicable report forms, as approved or furnished by the bureau, which is certifying the independent member agency performing the work, required by this Section. Each final systems report form shall bear the signature of the person performing the work and recording the data and the signature of the certified supervisor for the performing agency.

1.5 PERFORMANCE REQUIREMENTS

- A. Procedures, measurements, instruments and reports for adjusting and balancing work shall comply with the applicable provisions of the codes, standards, recommendations of the entities listed below.
 - 1. American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE).
 - 2. Sheet Metal and Air Conditioning Contractors National Association (SMACNA).
 - 3. National Environmental Balancing Bureau (NEBB).
 - 4. Associated Air Balance Council (ABBC).
 - 5. New York City Building Code.
- B. The air delivery or intake of each diffuser, grille and register shall be as designed or within five percent of the air flow rates shown on the drawings.
- C. The fan air flow rate and static pressure rise across the fan shall be within 10 percent above the design value at design speed.

1.6 JOB CONDITIONS

- A. The Contractor shall have the balancing specialist review his work with the respective manufacturers of the equipment and devices involved, and shall coordinate and schedule all Work.
- B. The Contractor shall furnish and install balancing dampers, pressure taps, gauges, valves, and other components as required for a properly balanced system, whether or not specified herein or shown on the drawings, all at no additional cost to the Authority. Adjustment or replacement of parts recommended by the balancing specialist shall be made in strict accordance with the respective equipment manufacturer's recommendations.
- C. The Contractor shall have the control manufacturer's representative see the adjustment of the automatically operated dampers and control valves to operate as required.

PART 2 - PRODUCTS

2.1 PATCHING MATERIALS

- A. Unless otherwise indicated on the drawings, use same products as originally installed for patching holes in insulation, ductwork and housings which have been cut or drilled for test purpose, including access for test instruments, attaching jigs, and similar purposes.

PART 3 - EXECUTION

3.1 INSPECTION

- A. Do not proceed with adjusting and balancing until unsatisfactory conditions have been corrected in a manner approved by the balancing specialist and the Commissioner.
- B. Examine the air systems to see that they are free from obstructions. Determine that all dampers, grilles and registers are open, that moving equipment is lubricated, that filters are installed, pneumatic and automatic controls are functioning, and perform other inspection and maintenance activities necessary for proper operation of the systems.

3.2 BALANCING AND ADJUSTING

- A. Balancing specialist shall perform all the procedures and comply all the data for all air systems.

- B. Data shall include a schematic diagram locating the air inlets, outlets, fans, equipment, dampers and regulating devices for air systems.
- C. All instruments used shall be accurately calibrated and maintained in good working order.
- D. Air Systems

The adjusting and balancing of air systems shall include but not be limited to the following:

1. Record and adjust fan rpm to design requirements.
 2. Record motor full load amperes.
 3. Make pitot tube traverse of main supply ducts and obtain design flow rate at fans.
 4. Record system static pressure, velocity pressure and total pressure.
 5. Adjust system for design supply, transfer and return air flow rate.
 6. Adjust system for minimum and maximum design flow rates of outside air.
 7. Record return air temperatures.
 8. Record entering mix air temperatures.
 9. Record leaving air temperatures.
 10. Adjust all main supply, return, relief and exhaust air ducts to proper design flow rate.
 11. Adjust each diffuser, grille and register.
 12. Each grille, diffuser and register shall be identified as to location and area on the schematic diagram.
 13. Size, type and manufacturer of diffusers, grilles and registers and all tested equipment shall be identified and listed in the final report. Manufacturer's data on all equipment shall be used to make required calculations for adjusting and balancing. Readings of diffusers, grilles and registers shall include design required velocity and resultant velocity, required flow rate and resultant flow rate after adjustments.
 14. All diffusers, grilles and registers shall be adjusted to minimize drafts in all areas.
 15. Dampers shall be permanently marked after air balance is complete so that they can be restored to their correct position, if disturbed later.
 16. Openings in ductwork for pitot tube insertion shall be sealed with snap-in plugs after air balance is complete.
- E. Final adjusting and balancing shall be performed during summer season for air conditioning systems and during winter season for heating systems, including operation when outside conditions are within 5 degrees F wet bulb temperature of maximum summer design condition, and within 10 degrees F dry bulb temperature of minimum winter design condition.

- F. Retest, adjust and balance systems subsequent to system modifications.
Resubmit test results.

3.3 SAMPLE OF REPORT FORMS

- A. Submit reports on ABBC National Standards for Total System Balance forms.
- B. Forms shall include but not be limited to the following information:

- 1. Title Page:

- a. Company name
- b. Company address
- c. Company telephone number
- d. Project name
- e. Project location
- f. Project Architect
- g. Project Engineer
- h. Project Contractor

- 2. Instrument List:

- a. Instrument
- b. Manufacturer
- c. Model
- d. Serial number
- e. Range
- f. Calibration date

- 3. Air Moving Equipment:

- a. Location
- b. Manufacturer
- c. Model
- d. Air flow, specified and actual
- e. Return air flow, specified and actual
- f. Outside air flow, specified and actual
- g. Total static pressure (total external), specified and actual
- h. Inlet pressure
- i. Discharge pressure
- j. Fan RPM

- 4. Exhaust Fan Data:

- a. Location
- b. Manufacturer
- c. Model

- d. Air flow, specified and actual
 - e. Total static pressure (total external) specified and actual
 - f. Inlet pressure
 - g. Discharge pressure
 - h. Fan RPM
5. Return Air/Outside Air Data:
- a. Identification/Location
 - b. Design air flow
 - c. Actual air flow
 - d. Design return air flow
 - e. Actual return air flow
 - f. Design outside air flow
 - g. Actual outside air flow
 - h. Return air temperature
 - i. Outside air temperature
 - j. Required mixed air temperature
 - k. Actual mixed air temperature
 - l. Design outside/return air ratio
 - m. Actual outside/return air ratio
6. Electric Motors:
- a. Manufacturer
 - b. HP/BHP
 - c. Phase, voltage, amperage; nameplate, actual no load
 - d. RPM
 - e. Service factor
 - f. Starter size, rating, heater elements
7. V-Belt Drive:
- a. Identification/location
 - b. Required driven RPM
 - c. Driven sheave, diameter and RPM
 - d. Belt, size and quantity
 - e. Motor sheave, diameter and RPM
 - f. Center to center distance, maximum, minimum and actual
8. Duct Traverse:
- a. System zone/branch
 - b. Duct size
 - c. Area
 - d. Design velocity
 - e. Design air flow

- f. Test velocity
 - g. Test air flow
 - h. Duct Static pressure
 - i. Air Temperature
 - j. Air correction factor
- 9. Air Distribution Test Sheet:
 - a. Air outlets and inlets number
 - b. Room number/location
 - c. Outlets and inlets type
 - d. Outlets and inlets size
 - e. Area factor
 - f. Design velocity
 - g. Design air flow
 - h. Test (final) velocity
 - i. Test (final) air flow
 - j. Percent of design air flow
- 10. Outlets and Inlets Unit Data:
 - a. Manufacturer
 - b. Type, constant, variable, single duct
 - c. Identification/number
 - d. Location
 - e. Model
 - f. Size
 - g. Minimum static pressure
 - h. Minimum design air flow
 - i. Maximum design air flow
 - j. Maximum actual air flow
 - k. Inlet static pressure
- 11. Duct Leak Test (as described in SMACNA):
 - a. Description of ductwork under test
 - b. Duct design operating pressure
 - c. Duct design test static pressure
 - d. Duct capacity, air flow
 - e. Maximum allowable leakage duct capacity times leak factor
 - f. Test apparatus:
 - Blower
 - Orifice, tube size
 - Orifice size
 - Calibrated
 - g. Test static pressure
 - h. Test orifice differential pressure

- i. Leakage rate
- j. Test shall include medium pressure supply ducts from fan discharge to VAV box.
- k. Leakage shall not exceed 3 percent of total air flow.

END OF SECTION

SECTION 230701 - DUCTWORK INSULATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Contract Documents: The work of this section shall comply with the Contract Documents, including the General Conditions, the Supplementary Conditions and Division 1 -General Requirements.

1.2 SUMMARY

- A. General: Provide all plant, labor, tools, appliances, equipment, materials and services required for the work indicated on the drawings and specified in this section.
- B. Work Included: The work includes, but is not necessarily limited to, the following:
 - 1. Thermal insulation on the ductwork installed and required on this Project as shown on the drawings, as specified herein and as needed for a complete and proper installation. The types of ductwork insulation specified in this Section include the following:
 - 2. Fiberglass, Cellular Glass, Flexible Unicellular.
 - 3. Note: All insulation materials shall be free of asbestos.
- C. Related Work: The following related items are specified in other sections of the specifications:
 - 1. Hangers and Supports for HVAC Piping and Equipment - Section 230529
 - 2. Identification for HVAC Piping and Equipment - Section 230553
 - 3. Metal Ducts - Section 233113

1.3 QUALITY ASSURANCE

- A. Manufacturer's Qualifications: Firms regularly engaged in manufacturer of mechanical insulation products, of types and sizes required, whose products have been in satisfactory use in similar service for not less than three (3) years.
- B. Installer's Qualifications: Firm with at least three (3) years successful installation experience on projects with mechanical insulations similar to that required for Project.

- C. Flame/Smoke Ratings: Provide mechanical insulation with flame spread index of 25 or less and smoke developed index of 50 or less, as tested by ASTM E 84 method and as defined in the N.Y. City Building Code.
- D. Code and Standards; Comply with New York City Building Code, New York State Energy Code and ASHRAE Standards.

1.4 SUBMITTALS

- A. Product Data: Submit manufacturer's product data and installation instructions for each type of duct insulation. Submit schedule showing manufacturer's product number, k-value, thickness and furnished accessories for each duct system requiring insulation.
- B. Maintenance Data: Submit maintenance data and replacement material lists for each type of duct insulation. Include this data and product data in maintenance manual in accordance with the requirement of DDC General Conditions.
- C. Samples: Submit manufacturer's sample of each duct insulation type required in accordance with the requirement of DDC General Conditions.
 - 1. Affix label to sample completely describing product.

1.5 DELIVERY, STORAGE AND HANDLING

- A. Deliver insulation, coverings, cements, adhesives and coatings to site in containers with manufacturer's stamp or label affixed showing fire hazard indexes of products.
- B. Protect insulation against dirt, water and chemical and mechanical damages. Do not install damaged or wet insulation; remove from site.

PART 2 - PRODUCT

2.1 MANUFACTURERS

- A. Subject to compliance with requirements, manufacturer offering products which may be incorporated in the work include the following:
 - Armstrong World Industries, Inc.
 - Certain Teed Corp.
 - Knauf Fiber Glass
 - Owens-Corning Fiberglass Corp.

2.2 MATERIALS

- A. Rigid Fiberglass Ductwork Insulation

ASTM C612; Class 1, 400 degrees F; 4.2 pound per cubic feet density glass fiber with a thermal conductivity (k) of .24 at 75 degrees F mean temperature.

B. Flexible Fiberglass Ductwork Insulation

ASTM C553; Type I - Resilient, Flexible; 1 pound per cubic feet density glass fiber with a thermal conductivity (k) of 0.29 at 75 degrees F mean temperature.

C. Cellular Glass Ductwork Insulation

ASTM C 552; Type I, Flat block; Type III, Special Shapes.

D. Flexible Unicellular Ductwork Insulation

ASTM C 534; Type II - Sheet for use between -40 degrees F and 200 degrees F only.

E. Jackets for Ductwork Insulation

ASTM C 921; Type I for ductwork with temperatures below ambient; Type II for ductwork with temperatures above ambient. (Type I - Vapor Barrier, Type II - Water Vapor Permeable).

F. Ductwork Insulation Accessories

Provide staples, bands, wires, tape, anchors, corner angles and similar accessories as recommended by insulation manufacturer for applications indicated.

G. Ductwork Insulation Compounds

Provide cements, adhesives, coatings, sealers, protective finishes and similar compounds as recommended by insulation manufacturer for applications indicated.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas and conditions under which the duct insulation is to be installed. Before applying the insulation, all tests specified in Division 1 and Division 23 sections should have been completed. Do not proceed with work until unsatisfactory conditions have been corrected in a manner acceptable to the Commissioner.

3.2 APPLICATION

- A. Ductwork System Insulation

1. Insulation Omitted: Do not insulate lined ductwork, except outdoor installed ductwork .
2. Cold Ductwork (Below Ambient Temperature):
 - a. Application Requirements: Insulate the following cold ductwork:
 1. Outdoor air intake ductwork between air entrance and fan inlet or HVAC unit inlet.
 2. HVAC supply ductwork between fan discharge, or HVAC unit discharge, and room terminal outlet except ductwork exposed in the room it supplies.
 3. HVAC return ductwork between room terminal inlet and return fan inlet, or HVAC unit inlet; except omit insulation on return ductwork located in return air ceiling plenums. Ductwork under roofs shall be insulated even though ductwork runs in plenum.
 4. HVAC plenums and unit housings not pre-insulated at factory or lined.
 - b. Insulate each ductwork system specified above with one of the following types:
 1. Rigid Fiberglass: 2" thick also in fan and equipment rooms and exposed on roofs.
 2. Flexible Fiberglass: 2" thick, application limited to concealed locations.
3. Ductwork Exposed to Outdoors:
 - a. Insulate ductwork with rigid fiberglass with Foil-Skim-Kraft (FSK) jacket 2 inch thick with corner angles on all corners.
 - b. Cover insulation with two (2) layers of roofing felt, each held in place by fiberglass cloth.
 - c. Impregnate roofing felt and glass cloth with bitumastic applied in two (2) 1/4 inch layers each applied separately.
 - d. Seal all openings at roof support points watertight.

3.3 INSTALLATION

- A. Install insulation products in accordance with manufacturer's written instructions, and in accordance with recognized industry practices to ensure that insulation serves its intended purpose.
- B. Install insulation materials with smooth and even surfaces.
- C. Clean and dry ductwork prior to insulating. Butt insulation joints firmly together to ensure complete and tight fit over surfaces to be covered.
- D. Maintain integrity of vapor-barrier on ductwork insulation, and protect it to prevent puncture and other damage.
- E. Extend ductwork insulation without interruption through walls, floors and similar ductwork penetrations, except where otherwise indicated.
- F. Lined Ductwork

Except as otherwise indicated, omit insulation on ductwork where internal insulation or sound absorbing linings have been installed.

3.4 PROTECTION AND REPLACEMENT

- A. Replace damaged insulation which cannot be repaired satisfactorily, including units with vapor barrier damage and moisture saturated units.
- B. Protection

Insulation Installer shall advise Contractor of required protection for insulation work during remainder of construction period, to avoid damage and deterioration.

END OF SECTION

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SECTION 230900 - INSTRUMENTATION AND CONTROL FOR HVAC

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Contract Documents: The work of the section with the Contract Documents, including the General Conditions, the Supplementary Conditions and Division 1 - General Requirements.

1.2 SUMMARY

- A. General: Provide all plant, labor, tools, appliances, equipment, materials and services required for the work indicated on the drawings and specified in this section.
- B. Work Included: The work includes the following:
 - 1. All automatic controls for systems scheduled on the drawings and with all the auxiliary work needed for a complete and proper installation using electric or electronic devices.
 - 2. Provide in addition to the controls specified in this Section all additional automatic controls, electric, specified under other Sections of these Specifications and as indicated on the drawings.
 - 3. The entire control system to be complete with all required accessories, control devices, thermostats, valves, motors, relays, transducers, transformers, switches, dampers, panels, and electric wiring to provide the functions as described hereinafter, regardless of whether or not specifically mentioned. All controls to be the product of one manufacturer unless otherwise indicated.
- C. Related Work: The following related items are specified herein and in other sections of the specifications or indicated on the drawings:
 - 1. Common Work results for HVAC Section 230500
 - 2. Centrifugal HVAC Fans Section 233416
 - 3. Sequence of Operations for HVAC Controls Section 230993

1.3 QUALITY ASSURANCE

- A. Manufacturer's Qualifications: Firms regularly engaged in manufacture and installation of control equipment of types and sizes required whose products have been in satisfactory use in similar service for not less than 3 years.

1. Codes and Standards

- a. Industry Standards: Comply with ASHRAE recommendations.
- b. NFPA Compliance: Comply with applicable provisions of NFPA Standards.
- c. UL Compliance: Comply with applicable provisions of UL Standards.

1.4 SYSTEM PERFORMANCE

Table 1: Measured Variable	Reporting Accuracy Reported Accuracy
Space Temperature	$\pm 0.5^{\circ}\text{C}$ [$\pm 1^{\circ}\text{F}$]
Ducted Air	$\pm 0.5^{\circ}\text{C}$ [$\pm 1^{\circ}\text{F}$]
Outside Air	$\pm 1.0^{\circ}\text{C}$ [$\pm 2^{\circ}\text{F}$]
Dewpoint	$\pm 1.5^{\circ}\text{C}$ [$\pm 3^{\circ}\text{F}$]
Delta-T	$\pm 0.15^{\circ}\text{C}$ [$\pm 0.25^{\circ}\text{F}$]
Relative Humidity	$\pm 5\%$ RH
Airflow (terminal)	$\pm 10\%$ of full scale (<i>see Note 1</i>)
Airflow (measuring stations)	$\pm 5\%$ of full scale
Air Pressure (ducts)	$\pm 25\text{ Pa}$ [$\pm 0.1"$ W.G.]
Air Pressure (space)	$\pm 3\text{ Pa}$ [$\pm 0.1"$ W.G.]
Electrical (A, V, W, Power factor)	5% of reading (<i>see Note 3</i>)
Note 1: 10% - 100% of scale	

Note 2: For both absolute and differential pressure

Note 3: Not including utility-supplied meters

1.5 SUBMITTALS

- A. All deviations from these specifications must be clearly outlined in shop drawing submittals. It is the HVAC Contractor's responsibility to insure all controls and control systems have been coordinated that they are all interfaced to provide a complete system. The HVAC Contractor shall be responsible for furnishing and coordinating all refrigeration plant controls such as controls, motor control centers, starters, etc.

- B. Shop Drawings: Submit shop drawings for each system automatically controlled, containing the following information:
 - 1. Schematic flow diagram of system showing fans, coils, dampers, valves, and control devices.
 - 2. Label each control device with setting or adjustable range of control.
 - 3. Indicate each control panel required, with internal and external piping and wiring clearly indicated. Provide detail of panel face, including controls, instruments, and labeling. Include verbal description of sequence of operation.
 - 4. Indicate all input/output functions and all control and interlock wiring as well as interfacing requirements.
- C. Maintenance Data: Submit manufacturer's maintenance data for each type of equipment. Include this data in maintenance manual; in accordance with requirements of Division 1.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials protected and undampened, with carbons labeled as to manufacturer and contents.
- B. Store materials in locations and in a manner to protect same from damage of any kind.

1.7 WARRANTY

- A. Warrant all work as follows:
 - 1. Labor and materials for the control system specified shall be warranted free from defects for a period of 12 months after final completion and acceptance. Control system failures during the warranty period shall be adjusted, repaired, or replaced at no additional cost or reduction in service to the City of New York. The Contractor shall respond to the City of New York's request for warranty service within 24 hours during normal business hours.
 - 2. At the end of the final start-up, testing, and commissioning phase, if equipment and systems are operating satisfactorily to the Engineer, the Engineer shall sign certificates certifying that the control system's operation has been tested and accepted in accordance with the terms of this specification. The date of acceptance shall be the start of warranty.
 - 3. Exception: The Contractor shall not be required to warrant reused devices, except for those that have been rebuilt and/or repaired. The

Contractor shall warrant all installation, labor and materials, however, and shall demonstrate that all reused devices are in operable condition at the time of Engineer's acceptance.

PART 2 – PRODUCTS

2.1 GENERAL

- A. Provide as herein specified a complete and operational automatic temperature control system of the electric/electronic type, Honeywell, Johnson, Landis, Gyr/Powers, or Barber-Colman.
- B. The control system shall be complete with all necessary panels, control devices, thermostats, transmitters, switches, dampers, motors and relays to provide the functions described under sequence of operation, regardless of whether or not specifically specified.
- C. All dampers of the automatic type shall be provided under this section for installation under sheet metal work.
 - 1. Provide lacamoid identification plates for all control devices.

2.2 AUXILIARY CONTROL DEVICES

- A. Refer only to those items that are part of project as delineated in plans and specified herein.
- B. Motorized control dampers, unless otherwise specified elsewhere, shall be as follows:
 - 1. Control dampers shall be parallel or opposed blade type as below or as scheduled on drawings.
 - 2. Outdoor and/or return air mixing dampers shall be parallel blade, arranged to direct air-streams toward each other modulating dampers shall be opposed blade type.
 - 3. Two-position shutoff dampers may be parallel or opposed blade type with blade and side seals.
 - 4. Damper frames shall be 13 gauge galvanized steel channel or ½" extruded aluminum with reinforced corner racing.
 - 5. Damper blades shall not exceed 8" in width or 48" in length. Blades are to be suitable for medium velocity performance (12,000 fpm). Blades shall be not less than 16 gauge.

6. Damper shaft bearings shall be as recommended by manufacturer for application, Oilite (or Approved Equal).
7. All blade edges and top and bottom of the frame shall be provided with replaceable butyl rubber or neoprene seals. Side seals shall be spring-loaded stainless steel. The blade seals shall provide for a maximum leakage rate of 10 cfm per sq. ft. at 4" w.c. differential pressure. Provide airfoil blades suitable for a wide-open face velocity of 1,500 fpm.
8. Individual damper sections shall not be larger than 48"x60". Provide a minimum of one damper actuator per section.
9. Modulating dampers shall provide a linear flow characteristic where possible.
10. Dampers shall have exposed linkages.

C. Electric damper/actuators

1. The actuator shall have electronic overload or digital rotation sensing circuitry to prevent damage to the actuator throughout the rotation of the actuator.
2. Where shown, for power-failure/safety applications, an internal mechanical spring failure mechanism shall be built into the actuator housing.
3. All rotary spring-return actuators shall be capable of both clockwise and counter-clockwise spring-return operation. Linear actuators shall spring-return to the retracted position.
4. Proportional actuators shall accept a 0 to 10 VDC or 0 to 20 mA control signal and provide a 2 to 10 VDC or 4 to 20 mA operating range.
5. All 24 VAC/VDC actuators shall operate on Class 2 wiring and shall not require more than 10 VA for AC or more than 8 W for DC applications. Actuators operating on 120 VAC or 230 VAC shall not require more than 11 VA.
6. All non-spring return actuators shall have an external manual gear release to allow manual positioning of the damper when actuator is not powered.
7. Spring-return actuators with more than 60 in lb torque capacity shall have a manual crank for this purpose.
8. All modulating actuators shall have an external, built-in switch to allow the reversing of direction of rotation.

9. Actuators shall be provided with a raceway fitting and a minimum 1 m electrical cable and shall be pre-wired to eliminate the necessity of opening the actuator housing to make electrical connections.
10. Actuators shall be UL Standard 873 Listed and CSA Class 4813 02 Certified as meeting correct safety requirements and recognized industry standards.
11. Actuators shall be designed for a minimum of 60,000 full-stroke cycles at the actuator's rated torque.

2.3 WIRING AND RACEWAYS

- A. General: Provide copper wiring, plenum cable, and raceways as specified in the applicable sections of Division 26.
- B. All insulated wire to be copper conductors, UL Labeled for 90C minimum service.

PART 3 – EXECUTION

3.1 INSPECTION

- A. Examine the area and conditions where Automatic Temperature Control is to be installed and notify the A/E of conditions detrimental to the proper and timely completion of the work. Do not proceed with the work until the Contractor in a manner acceptable to the A/E has corrected unsatisfactory conditions.

3.2 INSTALLATION AND SUPERVISION:

- A. Provide completely automatic, ready for operation, control system, all as described herein.
- B. The entire control system shall be complete with all necessary control devices, thermostats, motors, relays, switches, dampers and electric control wiring to provide the functions as described hereinafter, regardless of whether or not specifically mentioned. All controls shall be the product of one manufacturer.
- C. The control system shall be installed complete in all respects by competent mechanics, regularly employed by the manufacturer of the control system or his agent. All automatic control dampers shall be manufacturer by the control manufacturer and shall be installed in ducts by the respective trade under supervision of the control manufacturer or his agent.
- D. Complete drawings shall be submitted for approval before any field installation is started. Such drawings shall give complete description of all control elements and shall show complete schematic piping and wiring diagrams, including functional description.

- E. Service and Guarantee - After completion of the control system installation, the control manufacturer shall regulate and adjust all thermostats, damper motors, etc., and place them in complete operating condition. Complete instructions shall be given to the operating personnel in accordance with the requirement of the general conditions. There shall be minimum five (5) days instruction for summer cycle operation and five (5) days for the winter cycle.

3.3 SERVICE AND TESTING

- A. After completion of the control system installation, the Contractor shall give complete formal instructions to City of New York's operating personnel on the operation and maintenance of all control equipment furnished as a part of this Contract.
- B. Operational Test of Equipment:
 - 1. The Contractor shall test all thermostats and damper operators to ensure proper operation. Correct functioning of damper operation shall be demonstrated. With heating on, the Contractor shall turn all room thermostats down to their lowest setting, and it shall be shown that the supply to the air heating coils has been shut off. The thermostats shall then be adjusted to their highest setting, and air heating coils shall be rechecked to determine if the supply has been resumed. Thermostats controlling cooling equipment shall also be tested in an equivalent manner. All inoperative thermostats, damper operators shall be repaired or replaced. During these tests, the Contractor shall instruct the Commissioner's representative in the operation and maintenance of the entire temperature control system.
 - 2. Testing shall be done in the presence of the representative of the Commissioner.

3.4 MAINTENANCE SERVICE:

- A. The Contractor shall perform complete maintenance of the Automatic Temperature Control System for a period of one calendar year, at no additional cost to the City of New York, commencing with the date when the system is placed in operation so that the said controls may be operated 24 hours a day, 7 days a week. The maintenance program shall be performed with all reasonable care to keep the control and system in proper, safe and efficient operating condition. The Contractor shall furnish all labor, materials, supplies, parts, equipment, warning signs, other safety devices and all other things necessary or proper for or incidental to such maintenance.
- B. The Contractor shall repair or replace, as soon as possible, any part or parts of the controls and system, which become unsuitable for continued use.

- C. The Contractor shall submit to the A/E a detailed record of all maintenance and servicing performed under this Contract and shall notify the A/E/ if during the performance of service, additional repairs or replacements have to be scheduled.
- D. The maintenance service described above shall not, however, be a limitation on any rights which the City of New York would have, either expressed or implied, in connection with this Contract in the absence of such maintenance obligation.

3.5 EXAMINATION

- A. The project plans shall be thoroughly examined for control device and equipment locations. Any discrepancies, conflicts, or omissions shall be reported to the Commissioner for resolution before rough-in work is started.
- B. The Contractor shall inspect the site to verify that equipment may be installed as shown. Any discrepancies, conflicts, or omissions shall be reported to the Engineer for resolution before rough-in work is started.
- C. The Contractor shall examine the drawings and specifications for other parts of the work. If head room or space conditions appear inadequate or if any discrepancies occur between the plans and the Contractor's work, and the plans and the work of others the Contractor shall report these discrepancies to the Engineer and shall obtain written instructions for any changes necessary to accommodate the Contractor's work with the work of others. Any changes in the work covered by this specification made necessary by the failure or neglect of the Contractor to report such discrepancies shall be made by and at the expense of this Contractor.

3.6 PROTECTION

- A. The Contractor shall protect all work and material from damage by its work or employees, and shall be liable for all damage thus caused.
- B. The Contractor shall be responsible for its work and equipment until finally inspected, tested, and accepted. The Contractor shall protect any material that is not immediately installed. The Contractor shall close all open ends of work with temporary covers or plugs during storage and construction to prevent entry of foreign objects.

3.7 COORDINATION

- A. Site
 - 1. Where the mechanical work will be installed in close proximity to, or will interfere with work of other trades, the Contractor shall assist in working out space conditions to make a satisfactory adjustment. If the Contractor installs its work before coordinating with other trades, so as to cause any interference with work of other trades, the Contractor shall

make the necessary changes in its work to correct the condition without extra charge.

2. Coordinate and schedule work with all other work in the same area, or with work, which is dependent upon other work, to facilitate mutual progress.
- B. Submittals. Refer to the "Submittals" Article in Part 1 of this specification for requirements.
- C. Coordination with controls specified in other sections or divisions. Other sections and/or divisions of this specification include controls and control devices that are to be part of or interfaced to the control system specified in this section. These controls shall be integrated into the system and coordinated by the Contractor as follows:
1. Each supplier of controls product is responsible for the configuration, programming, start-up, and testing of that product to meet the sequences of operation described in this section.
 2. The Contractor shall coordinate and resolve any incompatibility issues that arise between the control products provided under this Section and those provided under other sections or divisions of this specification.
 3. The Contractor is responsible for providing all controls described in the contract documents regardless of where within the contract documents these controls are described.
 4. The Contractor is responsible for the interface of control products provided by multiple suppliers regardless of where this interface is described within the contract documents.

3.8 GENERAL WORKMANSHIP

- A. Install equipment, piping, and wiring/raceway parallel to building lines (i.e., horizontal, vertical, and parallel to walls) wherever possible.
- B. Provide sufficient slack and flexible connections to allow for vibration of piping and equipment.
- C. Install all equipment in readily accessible location as defined by Chapter 1, Article 100, Part A of the National Electrical Code (NEC).
- D. All wiring shall be verified for its integrity to ensure continuity and freedom from shorts and grounds.
- E. All equipment, installation, and wiring shall comply with acceptable industry specifications and standards for performance, reliability, and compatibility and be executed in strict adherence to local codes and standard practices.

3.9 FIELD QUALITY CONTROL

- A. All work, materials, and equipment shall comply with the rules and regulations of applicable local, state, and federal codes and ordinances as identified in Part 1 of this specification.
- B. Contractor shall continually monitor the field installation for code compliance and quality of workmanship.
- C. Contractor shall have work inspected by local and/or state authorities having jurisdiction over the work.

3.10 ELECTRICAL CONTROL WIRING:

- A. All control and interlock wiring shall comply with national and local electrical codes and Division 26 of this specification. Where the requirements of this section differ with those in Division 26, the requirements of this section shall take precedence.
- B. All NEC Class 1 (line voltage) wiring shall be UL Listed in approved raceway per NEC and Division 26 requirements.
- C. All low-voltage wiring shall meet NEC Class 2 requirements. (Low-voltage power circuits shall be sub-fused when required to meet Class 2 current-limit.)
- D. Where NEC Class 2 (current-limited) wires are in concealed and accessible locations including ceiling return air plenum, approved cables not in raceway may be used, provided that cables are UL Listed for the intended application. For example, cables used in ceiling plenum shall be UL Listed specifically for that purpose.
- E. All wiring in mechanical, electrical, or service rooms, or where subject to mechanical damage, shall be installed in raceway at levels below 3m [10 ft.].
- F. Do not install Class 2 wiring in raceway containing Class 1 wiring. Boxes and panels containing high-voltage wiring and equipment may not be used for low-voltage wiring except for the purpose of interfacing the two (e.g. relays and transformers).
- G. Do not install wiring in raceway containing tubing.
- H. Where Class 2 wiring is run exposed; wiring shall be run in a raceway.
- I. Where plenum cables are used without raceway, they shall be supported from or anchored to structural members. Cables shall not be supported by or anchored to ductwork, electrical raceways, piping, or ceiling suspension systems.

- J. All wire-to-device connections shall be made at a terminal block or terminal strip. All wire-to-wire connections shall be at a terminal block.
- K. All wiring within enclosures shall be neatly bundled and anchored to permit access and prevent restriction to devices and terminals.
- L. Maximum allowable voltage for control wiring shall be 120 V. If only higher voltages are available, the Contractor shall provide step-down transformers.
- M. All wiring shall be installed as continuous lengths, with no splices permitted between termination points/objects.
- N. Install plenum wiring in sleeves where it passes through walls. Maintain fire rating at all penetrations.
- O. Size of raceway and size and type of wire shall be the responsibility of the Contractor, in keeping with the manufacturer's recommendation and New York City Electric Code requirements, except as noted elsewhere.
- P. Include one pull string in each raceway 1" or larger.
- Q. Use coded conductors throughout with different colored conductors.
- R. Control and status relays are to be located in designated enclosures only. These enclosures include packaged equipment control panel enclosures unless they also contain Class 1 starters.
- S. Conceal all raceways, except within mechanical, electrical, or service rooms. Install raceway to maintain a minimum clearance of 15cm [6"] from high-temperature equipment (e.g., steam pipes or flues).
- T. Secure raceways with raceway clamps fastened to the structure and spaced according to code requirements. Raceways and pull boxes may not be hung on flexible duct strap or tie rods. Raceways may not be run on or attached to ductwork.
- U. Adhere to Division 26 requirements where raceway crosses building expansion joints.
- V. Install insulated bushings on all raceway ends and openings to enclosures. Seal top end of all vertical raceways.
- W. The Contractor shall terminate all control and/or interlock wiring, and shall maintain updated (as-built) wiring diagrams with terminations identified at the job site.
- X. Flexible metal raceways and liquid-tight, flexible metal raceways shall not exceed 3 ft. in length and shall be supported at each end. Flexible metal raceway

less than ½" electrical trade size shall not be used. In areas exposed to moisture, boiler rooms, liquid-tight, flexible metal raceways shall be used.

- Y. Raceway must be rigidly installed, adequately supported, properly reamed at both ends, and left clean and free of obstructions. Raceway sections shall be joined with couplings (per code). Terminations must be made with fittings at boxes, and ends not terminating in boxes shall have bushings installed.

3.11 ELECTRIC/ELECTRONIC

- A. Dampers: Actuators shall be direct-mounted on damper shaft or jackshaft unless shown as a linkage installation. For low-leakage dampers with seals, the actuator shall be mounted with a minimum 5° available for tightening the damper seals. Actuators shall be mounted following manufacturer's recommendations.
- B. Valves: Actuators shall be connected to valves with adapters approved by the actuator manufacturer. Actuators and adapters shall be mounted following the actuator manufacturer's recommendations.

END OF SECTION

SECTION 230993 - SEQUENCE OF OPERATIONS FOR HVAC CONTROLS

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK

A. Sequence of operation is hereby defined as the manner and method by which controls function. Requirements for each type of control system operation are specified in this section.

B. Operating equipment, devices and system components required for control systems are also specified in other Division Controls' sections of these specifications.

1.2 SUBMITTALS

A. Shop Drawings

1. Submit shop drawings for each system automatically controlled, containing the following information:
 - a. Schematic flow diagram of system showing units, dampers, control devices and sequence of operation.

B. Maintenance Data

1. Include copy of shop drawings in each maintenance manual.

PART 2 - PRODUCTS

(Not applicable to this section.)

PART 3 - EXECUTION

3.1 Electric heaters

- A. Winter time temperatures shall be maintained at 55°F adj. by heat pump mode and electric heat shall be controlled by built in thermostats.

3.2 TE FANS (TOILET EXHAUST FANS)

- A. Fans shall run continuously 24 hrs/7 days per week

END OF SECTION

SECTION 233113 - METAL DUCTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Contract Documents: The work of the section with the Contract Documents, including the General Conditions, the Supplementary Conditions and Division 1 - General Requirements.

1.2 SUMMARY

- A. General: Provide all plant, labor, tools, appliances, equipment, materials and services required for the work indicated on the drawings and specified in this section.
- B. Work Included: The work includes, but is not necessarily limited to the following:
1. Ductwork as specified herein, as indicated on the drawings, and as needed for a complete and proper installation.
- C. Related Work: The following related items are specified in other sections of the specifications.
- | | | |
|----|--|------------------|
| 1. | Common Work Results for HVAC | Section 230500 |
| 2. | Vibration and Seismic Controls for HVAC Piping and Equipment | Section 230548 |
| 3. | Ductwork Insulation | Section 230701 |
| 4. | Air Duct Accessories | Section 233300 |
| 5. | Dampers | Section 233301 |
| 6. | Registers, Diffusers and Grilles | Section 233713 |
| 7. | Instrumentation and Control for HVAC | Section 230900 |
| 8. | Testing for HVAC | Section 230593 |
| 9. | Balancing | Section 230593.1 |

1.3 QUALITY ASSURANCE

A. Manufacturer's Qualifications

Firms regularly engaged in manufacture of metal ductwork products of types, materials and sizes required, whose products have been in satisfactory use in similar service for not less than 3 years.

B. Installer's Qualifications

Firm with at least 3 years of successful installation experience on projects with ductwork systems similar to that required for project.

1.4 CODES AND STANDARDS

A. SMACNA Standards: Comply with SMACNA's "HVAC Duct Construction Standards, Metals and Flexible" for fabrication and installation of metal ductwork.

1. NFPA Compliance: Comply with NFPA 90A "Standard for the Installation of Air Conditioning and Ventilating Systems" and NFPA 90B "Standard for the Installation of Warm Air Heating and Air Conditioning Systems".

1.5 SUBMITTALS

A. Product Data

Submit manufacturer's product data including gages, materials, type of joints, sealing materials and installation instruction for metal ductwork materials and products.

B. Shop Drawings:

1. Submit scaled layout drawings (3/8" = 1'-0") of metal ductwork and fittings including, but not limited to, duct sizes, locations, elevations, slopes of horizontal runs, wall and floor penetrations and connections. Show modifications of indicated requirements made to conform to local shop practice, and how those modifications ensure that free area, materials and rigidity are not reduced.
2. Layouts should include all the room plans, mechanical equipment rooms, etc.
3. Method of attachment of duct hangers to building construction all with all the support details.
4. Coordinate shop drawings with related trades prior to submission.

C. Maintenance Data

Submit maintenance data and parts lists for metal ductwork materials and products. Include this data, product data and shop drawings in maintenance manual, in accordance with requirements of Division 1.

1.6 DELIVERY, STORAGE AND HANDLING

A. Protection

Protect shop-fabricated and factory-fabricated ductwork, accessories and purchased products from damage during shipping, storage and handling. Prevent end damage, dirt and moisture from entering ducts and fittings.

B. Storage

Where possible, store ductwork inside and protect from weather. Where necessary to store outside, store above grade and enclose with waterproof wrapping.

C. During construction, cover the duct openings with sheet metal blanks. Blanks shall be removed just prior to the grilles and end section installation.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Sheet Metal:

1. Aluminum: ASTM B-209, Alloy 3003, Temper H-14.
2. Copper: ASTM B-370.
3. Galvanized Steel: ASTM A527 lock forming quality-galvanizing; ASTM A525 coating designation G-90.
4. Monel: ASTM B-127.
5. Stainless Steel: AISI Type 304.

B. Gauge of Metal:

Galvanized steel sheets for ducts, etc., shall be in accordance with the following table, except otherwise specified:

Up to 30 inches	(either dimension)	No. 24 gauge
30 Inches to 54 inches	(either dimension)	No. 22 gauge
54 Inches to 72 inches	(either dimension)	No. 20 gauge

72 Inches and over (either dimension) No. 16 gauge

C. Duct Hangers:

1. Strap Hangers: Same material as ducts except that hangers for stainless steel duct in unfinished spaces may be galvanized steel.
2. Rod Type Hangers: Mild low carbon steel, unless otherwise specified; fully threaded or threaded each end, with 2 removable nuts each end for positioning and locking rod in place. Unless stainless steel, galvanized or cadmium plated; shop coat with red lead or zinc chromate primer paint.

D. Miscellaneous Ductwork Materials:

1. Sheet metal screws, machine bolts, rivets and nuts, tinned, cadmium plated or approved rust resistant. Bolts shall be button-head stove bolts, 1/4 x 3/4 inch unless otherwise specified.
2. C Clamps: Fee & Mason 255L with locking nut and 255S retaining strap.
3. Welding Studs: Erico Fastening Systems, capacitor discharge, low carbon steel, copper flashed.
4. Structural (carbon) steel shapes and steel plates: ASTM A36 shop primed.
5. Stainless steel shapes and plates: ASTM A276 and ASTM A666.
6. Machine Bolt Expansion Anchors:
 - a. Non-caulking single unit type: FS FF-S-325, Group II, Type 2, Class, Style 1.
 - b. Non-caulking double unit type: FS FF-S-325, Group II, Type 2, Class 2, Style 2.
 - c. Self-drilling type: FS FF-3-325, Group III, Types 1 and 2.
7. Duct Liner: Fibrous glass, complying with Thermal Insulation Manufacturers Association (TIMA) AHC-101; of thickness indicated on the drawings.
8. Duct Liner Adhesive: Comply with ASTM C 916 "Specifications for Adhesives for Duct Thermal Insulation".
9. Duct Liner Adhesive: Comply with SMACNA HVAC Duct Construction Standards, Article S2.11.

10. Duct Sealant: Non-hardening, non-migrating mastic or liquid elastic sealant, type applicable for fabrication/installation detail, as compounded and recommended by manufacturer specifically for sealing joints and seams in ductwork.
11. Duct Cement: Non-hardening migrating mastic or liquid neoprene based cement, type applicable for fabrication/installation detail, as compounded and recommended by manufacturer specifically for cementing fitting components, or longitudinal seams in ductwork.
12. Flexible Ducts: Either spiral-wound spring steel with flameproof vinyl sheathing or corrugated aluminum; complying with UL 181. Where installed in unconditioned spaces other than return air plenums, provide 1" thick continuous flexible fiberglass sheath with vinyl vapor barrier jacket.
13. Seams and Joints: Duct seams and joints shall be made in accordance with SMACNA Standards, except as noted. All ducts exposed to weather or located on the roof shall have their transverse joints sealed with tape to make the joints airtight. Tape shall be 1-1/2 inch wide "Weatherban" synthetic rubber sealant type 1202-T, manufacturer by 3M Co (or Approved Equal).

2.2 FABRICATION - GENERAL

- A. Fabricate ductwork from galvanized sheet metal of the gauges specified, except as follows:
 1. Fabricate the following ductwork from aluminum:
 - a. Exhaust ductwork from the apartment dryers.
 2. Angles used in conjunction with various types of ductwork shall be fabricated of the same material as the ductwork. Ducts shall be assembled in accordance with SMACNA or ASHRAE Standards.
 3. Kitchen exhaust ductwork shall be minimum 18 gauge.
- B. Dissimilar Metals

Separate dissimilar metals used for ductwork with gaskets. No separation is required between screws or rivets and the materials they are inserted in.
- C. Fabricate duct fittings to match adjoining ducts, and to comply with duct requirements as applicable to fittings. Fabricate elbows with center line radius equal to associated duct width; and fabricate fittings to include turning valves in elbows where shorter radius is necessary. Limit angular tapers to 30 degrees for diverging concentric transition and 60 degrees for converging concentric transition unless otherwise shown on the drawings.

- D. Fabricate ductwork with accessories installed during fabrication to the greatest extent possible. Refer to Section 233300 - "Air Duct Accessories" for accessory requirements and Section 233301 - "Dampers" for damper requirement.
- E. Fabricate ductwork with a duct liner where indicated on the drawings. Laminate liner to internal surfaces of duct in accordance with instructions by manufacturers of lining and adhesive, and fasten with mechanical fasteners.
- F. Provide sleeves and flanges at ductwork penetrations of inside walls, except fire walls where fire dampers (Refer to Section 233301 - "Dampers" of this Specifications) are installed. Extend ductwork insulation and vapor barrier through the ductwork sleeve. Sleeves shall be two inches larger than the ductwork plus its insulation.

PART 3 - EXECUTION

3.1 INSPECTION

- A. Examine areas and conditions under which metal ductwork is to be installed. Do not proceed with work until unsatisfactory conditions have been corrected in manner acceptable to the Commissioner.

3.2 INSTALLATION - GENERAL

- A. Install ductwork to allow maximum headroom. Properly fabricate seams, brace, stiffen, support and render ducts mechanically airtight. Adjust ducts to suit job conditions. Dimensions may be changed as approved, if cross sectional area is maintained.
- B. Pitch horizontal ducts connected to hoods downward toward hood not less than 1 inch in 10 feet.
- C. Provide necessary transformation pieces and flexible fiberglass connections (Refer to "Ductwork Accessories" Section of this specification) for ductwork connected to air handling equipment or air inlet and outlet devices.

D. Field Fabrication

Complete fabrication of work at project as necessary to match shop-fabrication work and accommodate installation requirements.

E. Routing

Locate ductwork runs, except as otherwise indicated on the drawings, vertically and horizontally and avoid diagonal runs wherever possible. Locate runs as indicated by diagrams, details and notations or, if not otherwise indicated, run ductwork in shortest route which does not obstruct useable space or block access for servicing building equipment. Hold ducts close to walls, overhead

construction, columns, and other structural and permanent enclosure elements of the building. Limit clearance to 1/2" where furring is indicated for enclosure or concealment of ducts, but allow for insulation thickness, if any. Where possible, locate insulated ductwork for minimum of 1" clearance outside of insulation. In finished and occupied spaces, conceal ductwork from view, by location in mechanical shafts, furred wall construction or above suspended ceilings. Do not encase horizontal runs in solid partitions, except where specifically indicated. Coordinate layouts with suspended ceiling and lighting layouts and similar finished work.

F. Electrical Equipment Spaces

Do not route ductwork through electric service room and equipment spaces.

G. Penetrations

Where ducts pass through interior partitions and are exposed to view, conceal space between construction opening and duct or duct insulation with sheet metal flanges of same gauge as duct. Overlap opening on 4 sides by at least 1 1/2". Where ducts pass through fire-rated floors, walls or partitions, provide firestopping between duct and fire dampers in accordance with requirements of the appropriate section of the General Construction Specification.

H. Coordination

Coordinate duct installation with installation of accessories, dampers, equipment, controls and other associated work of ductwork system.

3.3 INSTALLATION OF DUCT LINER

- A. Install duct liner in accordance with SMACNA HVAC Duct Construction Standards.

3.4 INSTALLATION OF FLEXIBLE DUCTS

- A. Maximum Length

For any duct run using flexible ductwork, do not exceed 5'-0" extended length.

- B. Installation

Install in accordance with Section III of SMACNA's "HVAC Duct Construction Standards, Metal and Flexible".

3.5 SEALING SEAMS, JOINTS AND PENETRATIONS

- A. Seal ductwork in accordance with the SMACNA Manual except for the following:

1. Ductwork Specified to be Insulated: Conform with Seal Class A for all pressure classes.
2. Cooking Equipment Exhaust Ductwork: Conform with NFPA 96.
3. Horizontal Ductwork for Dishwashing Exhaust:
 - a. Continuously seal transverse joints vaporite along bottom, and up both sides 2 inches minimum.
 - b. Continuously seal longitudinal seams vaporite if seams are approved to be located at bottom of duct.

3.6 HANGER AND SUPPORT

- A. All ducts shall be run at the levels indicated on the drawings, as close to the ceiling as possible, excepting where pipes or electric conduits are indicated as passing above them. They shall be installed within enclosing work (hung ceiling or furring) indicated on the drawings and shall not interfere with its construction. Horizontal ducts shall be supported on galvanized steel hangers. For duct having a cross-sectional area of 4-square feet or less, the hangers shall be located near each duct joint and shall be spaced not more than 8-feet apart. For ducts having a cross-sectional area greater than 4-square feet, the hangers shall be located near each duct joint and duct brace, and shall be spaced not more than 4-feet apart. Where one duct is run below another duct of greater width, the lower duct shall be hung from the braces of the upper duct by means of strap hangers bolted to the braces of the upper duct. The braces of the upper duct. The braces of the upper duct shall be increased in thickness in such cases.
- B. Inserts
 1. When the floor and/or roof slab construction for the project is of conventional reinforced poured concrete type, the following directions apply: Overhead ductwork shall be supported by hangers secured to inserts before the floor slabs are poured. Inserts shall be approved by the New York City Board of Standards and Appeals. Attachment of hangers to existing slabs of this type of construction shall be made with B.S. & A. approved self-drilling concrete anchors. They shall be the equal of Molly Co.'s "Parabolt", Phillips Co.'s "Red Head".
 2. When the floor and/or roof slab construction are pre-cast concrete slabs. The following directions apply; overhead ductwork shall be supported by hangers secured to the precast slabs by Molly Co.'s "Parabolt", Phillips Drill Co.'s "Redhead" inserts or equal.
- C. Vertical ducts shall be supported at each floor level with steel angle braces extending around duct and with an end of an angle extending beyond duct and resting on the floor construction at each corner of the duct. Supporting angles shall be 1" x 1" x 1/8" for ducts up to 30-inches (in either dimension). 1-1/4" x

1-1/4" x 1/8" from 30 to 60 inches and 1-1/2" x 1-1/2" x 1/8" 60 inches and above.

3.7 HANGERS FOR DUCTS

- A. Install hangers for ducts as specified in the SMACNA Manual with the following exceptions:
1. Rectangular ducts up to 42 inches wide, not having welded or soldered seams, and supported from overhead construction shall have strap hangers extended down each side of the duct and turned under bottom of duct a minimum of 2 inches. Secure hanger to duct with 3 full thread sheet metal screws, one in the bottom and 2 in the side of the duct.
 2. Rectangular ducts 43 inches wide and over, and all sizes of duct with welded or soldered seams, and supported from overhead construction; use trapeze hangers.
 3. Prime coat plain steel rods threaded at the site immediately after installation with zinc chromate primer paint.

3.8 UPPER HANGER ATTACHMENTS

- A. General:
1. Secure hanger attachments to structural steel or steel bar joists wherever possible
 2. Do not use drive-in beam clamps, flat bars or bent rods, as upper hanger attachments.
 3. Do not attach hangers to steel deck which are not to receive concrete fill.
 4. Do not attach hangers to cast in place concrete planks less than 2-3/4 inches thick.
 5. Avoid damage to reinforcing members in concrete construction.
 6. Metallic fasteners installed with electrically operated or power driven tools may be used as upper hanger attachments, in accordance with the SMACNA Manual, with the following exceptions:
 - a. Do not use power driven drive pins or expansion nails.
 - b. Do not attach power driven or welded studs to structural steel less than 3/16 inch thick.

- c. Do not support a load, in excess of 250 lbs. from any single welded or power driven stud.
- d. Do not use power driven fasteners in cast in place concrete.

B. Attachment to Steel Frame Construction

Provide intermediate structural steel members where required by ductwork support spacing. Select steel members for use as intermediate supports based on a minimum safety factor of 5.

- 1. Secure upper hanger attachments to steel bar joists at panel point of joists.
- 2. Do not drill holes in main structural steel members.

C. Attachment to Cast in Place Concrete:

- 1. Secure hangers to overhead construction with self-drilling type expansion anchors and machine bolts.
- 2. Secure hanger attachments required to be supported from wall or floor construction with single unit expansion anchors or self-drilling type expansion anchors and machine bolts.

3.9 DUCT RISER SUPPORTS, UNDER 2 INCHES W.G.

- A. Unless otherwise specified or shown on the drawings, support vertical rectangular duct by means of two steel angles, secured to duct and resting on floor slab or adjacent structural steel member at every other floor through which the duct passes. Size supports as follows:

<u>Max. Side Dimension (Inches)</u>	<u>Support Angle Inches</u>	<u>Secure to Duct With</u>	<u>Min. Bearing at Each End (Inches)</u>
36	1 x 1 x 1/8	Screws	2
48	1-1/2 x 1-1/2 x 1/8	Bolts	3

3.10 OPENINGS IN WALLS AND FLOORS

A. In Walls

In general, Contractor will form openings in walls for the passage of ducts. Contractor shall coordinate the exact location and size (including clearances) of each opening required. The openings shall be cut, framed and provided with sufficiently strong lintels. The jambs shall be built square and plumb and shall be finished to match the adjoining work.

B. In Floors

1. When the floor and/or roof slab construction for the project is the composite metal deck type, consisting of corrugated sheet steel and reinforced concrete, the following directions apply: Any opening, which is not framed by structural steel beams on all side (refer to the structural steel drawings) and which is required in steel decking for the installation of HVAC work shall be cut by the HVAC installer. Openings shall be made by installing the proper size form (prior to the pouring of concrete) and cutting the metal deck when the ducts are to be installed. Holes greater than 6 inches but less than 30 inches in any dimension will be reinforced. Holes 6-inches or less in any dimension need not be reinforced.
2. When the floor or roof slab construction for the project is precast concrete, concrete type, the following directions apply: The General Contractor will provide openings in the slabs for the passage of ducts. HVAC installer will furnish the exact location and size (including clearances) of each opening required.

3.11 FIELD QUALITY CONTROL

A. Leakage Tests

After duct system is completed, test for duct leakage in accordance with SMACNA HVAC Air Duct Leakage Test Manual.

3.12 CONNECTIONS

A. General

Connect metal ductwork to equipment as indicated, provide flexible connection for each ductwork connected to equipment mounted on vibration isolators, and/or equipment containing rotating machinery. (Refer to Section 233300 - "Air Duct Accessories", Section of the specification for flexible connectors).

- B. Coordinate to ensure that access doors have been provided in hung ceilings and any other required places for proper operation and maintenance.

3.13 ADJUSTING AND CLEANING

- A. Clean ductwork internally of dust and debris as it is installed. Clean external surfaces of foreign substances which might cause corrosive deterioration of metal or where ductwork is to be painted might interface with painting or cause paint deterioration.

B. Balancing

Refer to Section 230593.1 - "Balancing for HVAC" for air distribution balancing of metal ductwork. Seal any leaks in ductwork that become apparent in balancing process.

END OF SECTION

SECTION 233300 - AIR DUCT ACCESSORIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Contract Documents: The work of the section with the Contract Documents, including the General Conditions, the Supplementary Conditions and Division 1 - General Requirements.

1.2 SUMMARY

- A. General: Provide all plant, labor, tools, appliances, equipment, materials and services required for the work indicated on the drawings and specified in this section.
- B. Work Included: The work includes, but is not necessarily limited to, the following:
 - 1. All the duct accessories specified herein, as shown on the drawings along with all the auxiliary work needed for a complete and proper installation. The types of ductwork accessories specified in this section include the following: turning vanes, duct hardware, duct access doors and flexible connections.
- C. Related Work: The following related items are specified herein and in other sections of the specifications:
 - 1. Common Work Results for HVAC Section 230500
 - 2. Identification for HVAC Piping and Equipment Section 230553
 - 3. Metal Ducts Section 233113
 - 4. Instrumentation and Control for HVAC Section 230900
 - 5. Sequence of Operations for HVAC Controls Section 230993
 - 6. Testing for HVAC Section 230593
 - 7. Balancing Section 230593.1

1.3 QUALITY ASSURANCE

- A. Manufacturer's Qualifications: Firms regularly engaged in manufacture of ductwork accessories of types and sizes required whose products have been in satisfactory use in similar service for not less than 3 years.
- B. Codes and Standards:
 - 1. SMACNA Compliance: Comply with applicable portions of SMACNA "HVAC Duct Construction Standards, Metal and Flexible".
 - 2. Industry Standards: Comply with ASHRAE recommendations pertaining to construction of ductwork accessories, except as otherwise indicated on the drawings.
 - 3. NFPA Compliance: Comply with applicable provisions of NFPA 90A "Air Conditioning and Ventilating Systems", pertaining to installation of ductwork accessories.

1.4 SUBMITTALS

- A. Product Data: Submit manufacturer's catalog sheets product data for each type of ductwork accessory, including dimensions capacities, and materials of construction; and installation instructions.
- B. Shop Drawings: Submit manufacturer's assembly-type shop drawings for each type of ductwork accessory showing interfacing requirements with ductwork, method of fastening or support, and methods of assembly of components. Submit SMACNA Figure Numbers for each shop fabricated item.
- C. Maintenance Data: Submit manufacturer's maintenance data including parts lists for each type of duct accessory. Include this data, product data, and shop drawings in maintenance manual; in accordance with requirements of Division 1.

PART 2 - PRODUCTS

2.1 MATERIALS AND MANUFACTURERS

- A. Turning Vanes:
 - 1. Fabricated Turning Vanes: Provide fabricated turning vanes and vane runners, constructed in accordance with SMACNA "HVAC Duct Construction Standards".

2. Acoustic turning Vanes: Provide acoustic turning vanes constructed of airfoil shaped aluminum extrusions with perforated faces and fiberglass fill.

3. Manufacturer: Subject to compliance with the specification requirements, provide turning vanes of one of the following:

Anemostat Products Div; Dynamics Corp of America. Duro Dyne Corp.
Tuttle & Bailey, Hart & Cooley Mfg. Co.
Titus Product, Div. of Phillips Inds.

B. Duct Hardware:

1. Provide test hole fittings for making air readings, on both (opposite) sides of discharge duct from all supply and exhaust fans, at set dampers on supply branch ducts, and at other locations where shown on the drawings for the proper adjusting and testing of the ventilating systems. No test hole fittings are required for roof type or other propeller type fans. Each fitting shall consist of an aluminum casting similar in design to that shown on the Detail Drawings. "Duro Dyne" instrument test port, "Ventlock 699", or equal are suitable for this purpose. If required, provide test hole fitting for microprocessor type of instrument reading either local or remote.

2. Manufacturer: Subject to compliance with the specification requirements, provide duct hardware of one of the following:

Duro Dyne Corp.
Young Regulator Co.

C. Duct Access Doors:

1. General: Provide where indicate, duct access doors of size indicated and at locations required to permit inspections, operation and maintenance of all valves, all coils, controls, fire dampers, fire/smoke dampers, automatic or motorized dampers, or other apparatus concealed behind the sheet metal work.
2. Construction: Construct of same or greater gage as ductwork served, provide insulated doors for insulated ductwork. Provide flush frames for uninsulated ductwork, extended frames for externally insulated duct. Provide one size hinged, other side with one handle-type latch for doors 12" high and smaller, 2 handle-type latches for larger doors.

3. Manufacturer: Subject to compliance with requirements, provide duct access doors of one of the following:

Air Balance Inc.
Duro Dyne Corp.
Rushkin Mfg. Co.

D. Fan Connections (Flexible Connections)

1. Provide an air-tight fabric neck at the inlet and at the outlet connection of all air handling unit, supply fans and exhaust fans and where ductwork connects to any vibration isolation equipments.
2. Necks shall be not less than 3-inches nor more than 10 inches in width and both sides shall be secured in a crimped lock seam for the entire perimeter to galvanized sheet steel bands 3-inches in width. This assembly shall be securely fastened to ducts and to fans, and the joints shall be made airtight. Necks shall not be oiled or painted. Neck fabric shall be one of the following materials:
 - a. Cotton duck, 10-ounces per square yard minimum weight, conforming to Federal Specifications CCC-C-428D (treated for fire, water, and mildew resistance).
 - b. Flameproof elastomeric coated glass fabric, weighing not less than 14-ounces per square yard, having a tensile strength of 200 psi (minimum) and having a heat resistance of up to 500 degrees F ("Thermafab", manufactured by Duro Dyne Corp., is an example of this material).
 - c. Close woven glass cloth, double neoprene coated, 28-ounces per square yard minimum weight.
3. Manufacturer: Subject to compliance with the specification requirements, provide fans connections of one of the following:

Duro Dyne Corp.
Flexaust (The) Co.

E. Heat and Smoke Detecting Devices

1. Install heat detecting devices and smoke detecting devices in the ductwork at various locations or as indicated on the drawings. Provide access door in the duct near each detector. These detecting devices will be furnished by the Electrical Contractor, who will provide all wiring connections. Operate the fans of the ventilating systems concerned, for the purpose of testing the heat and smoke detectors when so requested by the Electrical Contractor.

2. Inform the Electrical Contractor of the proper temperature setting required for each heat detector. This temperature shall be approximately 40 degrees F (but not more than 50 degrees F) higher than the operating temperature of the system in which the heat detector is located.

PART 3 - EXECUTION

3.1 INSPECTION

- A. Examine areas and conditions under which ductwork accessories will be installed. Do not proceed with work until unsatisfactory conditions have been corrected in manner acceptable to Commissioner.

3.2 INSTALLATION OF DUCTWORK ACCESSORIES

- A. Install ductwork accessories in accordance with manufacturer's installation instructions, with applicable portions of details of construction as shown in SMACNA standards, and in accordance with recognized industry practices to ensure that products serve intended function.
- B. Install turning vanes in square or rectangular 90 degree elbows in supply and exhaust air systems, and elsewhere as indicated on the drawings.
- C. Install access doors to open against system air pressure, with latches operable from either side, except outside only where duct is too small for person to enter.
- D. Coordinate with other work, including ductwork, as necessary to interface installation of ductwork accessories properly with other work.

3.3 FIELD QUALITY CONTROL

- A. Operate installed ductwork accessories to demonstrate compliance with requirements. Test for air leakage while system is operating. Repair or replace faulty accessories, as required to obtain proper operation and leakproof performance.

3.4 ADJUSTING AND CLEANING

- A. Adjusting
Adjusting ductwork accessories for proper settings.
- B. Cleaning

Clean factory-finished surfaces. Repair any marred or scratched surfaces with manufacturer's touch-up paint.

END OF SECTION

SECTION 233301 - DAMPERS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Contract Documents: The work of this section shall comply with the Contract Documents, including the General Conditions, the Supplementary Conditions and Division 1 -General Requirements.

1.2 SUMMARY

- A. General: Provide all plant, labor, tools, appliances, equipment, materials and services required for the work indicated on the drawings and specified in this section.
- B. Work Included: The work includes, but is not necessarily limited to the following:
 - 1. All dampers specified herein, as indicated the drawings or as needed for a complete and proper installation.

1.3 RELATED WORK

- A. The following related items are specified in other sections of the specification:
 - 1. Common Work Results for HVAC Section 230500
 - 2. Identification for HVAC Piping and Equipment Section 230553
 - 3. Metal Ducts Section 233113
 - 4. Air Duct Accessories Section 233300
 - 5. Testing for HVAC Section 230593
 - 6. Balancing Section 230593.1
 - 7. Instrumentation and Control for HVAC Section 230900
 - 8. Sequence of Operations for HVAC Controls Section 230993

1.4 QUALITY ASSURANCE

- A. Manufacturer's Qualifications: Firms regularly engaged in manufacturer of dampers, of types and sizes required, whose products have been in satisfactory in similar service for not less than three (3) years.

B. Codes and Standards:

1. SMACNA Compliance: Comply with applicable portions of SMACNA "HVAC Duct Construction Standards, Metal and Flexible".
2. UL Compliance: Construct, test and label fire damper in accordance with UL Standard 555 "Fire Dampers and Ceiling Dampers".

1.5 SUBMITTALS

- A. Product Data: Submit catalog sheets data for each type of damper, including dimensions, and materials of construction and installation instructions. Submit BS&A numbers.
- B. Shop Drawings: Submit manufacturer's assembly-type shop drawings for each type of damper showing interfacing requirements with ductwork, method of fastening or support, and methods of assembly of components.
- C. Maintenance Data: Submit manufacturer's maintenance data including parts lists for each type of dampers. Include this data, product data, and shop drawings in maintenance manual; in accordance with requirements of Division 1.

1.6 MAINTENANCE

- A. Furnish extra fusible links to the Commissioner, one link for every 10 installed at each temperature range: obtain receipt.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturer: Subject to compliance with requirements, provide dampers of one of the following:

Air Balance, Inc.
Penn Ventilator Co.
Ruskin Mfg. Co.

- B. Dampers:

1. Volume Control Dampers

- a. Opposed blade type, frames of all welded construction utilizing channel iron members in galvanized steel ducts, extruded members in aluminum ducts and stainless steel in stainless steel ducts. Fabricate frames of 2 inch wide x 1/2 inch legs x 1/8 inch thick (minimum) members for dampers less than 10 sq.ft. in size and 2 inch wide x 1 inch leg x 1/8 inch thick (minimum) for

larger sizes. Fabricate blades from No. 16 gage (minimum) metal, of same material as duct in which installed with 3 horizontal grooves, 2 turned edges and trunnion mounted in brass sleeve or ball bearings. Space bearings on maximum 48 inch centers. Single blade dampers are unacceptable for duct over 11 inches in height. Weld motor mounting bracket to damper frame for electric motor operated dampers. Provide cable operated dampers at all branches where access doors cannot be installed.

C. Splitter Dampers

Fabricate dampers of same material as duct in which installed with rolled or hemmed edges. Provide blades in ducts having a maximum side dimension under 24 inches of same gage as duct, and in ducts having a maximum side dimension 24 inches and over provide blades 2 gages heavier than duct.

2.2 DAMPER MOTORS

A. Acceptable Manufacturers:
Barber-Colman Co.
Honeywell Inc.
Johnson Controls, Inc.

B. Two position spring return capacitor type gear motor with nylon bearings and oil immersed gear train, designed to operate on 120V, 60Hz, 1 phase service. Furnish suitable damper linkage with each motor.

1. Operation: When motor is energized, damper blades open when de-energized spring return closes damper.

2.3 FIRE AND SMOKE DAMPERS

A. Fire Dampers

Provide fire dampers of types and sizes indicated on the drawings. Construct casings of galvanized steel with bonded red acrylic enamel finish. Provide fusible link rated at 160 degrees to 165 degrees F unless otherwise indicated. Provide damper with positive lock in closed position and with the following additional features:

1. Blade Material: Steel, match casing.

B. Fire/Smoke Dampers

1. Provide motor-driven fire smoke dampers in types and sizes indicated on the drawings, with casing constructed of galvanized steel, fire rated at 212 degrees F, stainless steel negator spring to assure positive closing when mounted in either vertical or horizontal position together with

stainless steel jamb gasket to provide a Class II fire retardant smoke seal. The damper shall also close upon power interruption from the smoke detectors. Dampers operators shall be electric motors equipped with instant closure clutch, stainless steel cable damper blade linkage, motor mounting brackets, and long wire leads for connecting to smoke detector. Damper shall have the following construction feature:

- a. Unit Assembly: Motor mounted outside air stream. Dampers shall be Ruskin Model FSD-60.

2.4 AUTOMATIC DAMPERS

- A. Install automatic dampers supplied by the automatic control system manufacturer. Notch end of rod and label duct or casing to indicate open or closed position.

PART 3 - EXECUTION

3.1 INSPECTION

- A. Examine areas and conditions under which dampers will be installed. Do not proceed with work until unsatisfactory conditions have been corrected in manner acceptable to the Commissioner.

3.2 INSTALLATION

- A. Install damper in accordance with manufacturer's installation instructions.
- B. Install access doors and fire rated access door as required.
- C. Coordinate with other work, including ductwork, as necessary to interfere installation of damper properly with other work. Dampers shall but depend on duct and ductwork hangers for their support.

3.3 FIELD QUALITY CONTROL

- A. Operate damper to demonstrate compliance with requirements. Test for air leakage while system is operating. Repair or replace faulty components, as required to obtain proper operation and leakproof performance.

3.4 ADJUSTING

- A. Adjusting

Adjust damper for proper settings, install fusible links in fire dampers and adjust for proper action.

- B. Label access doors in accordance with Section 23 0553: "Identification for HVAC Piping and Equipment".
- C. Final positioning of manual dampers is specified in Section 23 0593.1: "Balancing for HVAC".

END OF SECTION

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SECTION 233416 - CENTRIFUGAL HVAC FANS

PART 1 - PRODUCTS

1.1 RELATED DOCUMENTS

- A. Contract Documents: The work of the section with the Contract Documents, including the General Conditions, the Supplementary Conditions and Division 1 - General Requirements.

1.2 SUMMARY

- A. General: Provide all plant, labor, tools, appliances, equipment, materials and services required for the work indicated on the drawings and specified in this section.
- B. Work Included: The work includes, but is not necessarily limited to, the following:
 - 1. Power centrifugal fans as specified herein, as indicated on the drawings, and as required for a complete and proper installation.
- C. Related Work: The following related items are specified in other sections of the specifications:
 - 1. Metal Ducts Section 233113
 - 2. Instrumentation and Control for HVAC Section 230900
 - 3. Sequence of Operations for HVAC Controls Section 230993
 - 4. Common Motor Requirements for HVAC Equipment Section 230513
 - 5. Testing for HVAC Section 230593
 - 6. Balancing Section 230593.1

1.3 QUALITY ASSURANCE

- A. Manufacturer's Qualifications: Firms regularly engaged in manufacture of centrifugal fans of types and sizes required, whose products have been in satisfactory use in similar service for not less than 3 years.
- B. Acceptable Manufacturer: All centrifugal fans, required under this section, shall be the products of a single manufacturer.

C. Code and Standards:

1. AMCA Compliance: Provide centrifugal fans bearing the AMCA Certified Ratings Seal. Sound rate centrifugal fans in accordance with AMCA 300 "Test Code for Sound Rating Air Moving Devices".
2. UL Compliance: Provide centrifugal fan electrical components, which have been listed and labeled by UL.
3. ASHRAE Compliance: Test and rate centrifugal fans in accordance with ASHRAE 51 (AMCA 210) "Laboratory methods of Testing Fans for Rating".

1.4 SUBMITTALS

- A. Submit manufacturer's product data for power centrifugal fans, including specifications, capacity ratings, fan performance curves with operating point clearly indicated, gages and finishes of materials, dimensions, weights, accessories furnished, and installation instructions.
- B. Shop Drawings: Submit assembly-type shop drawings showing fan dimensions, required clearances, construction details, and field connection details.
- C. Wiring Diagrams: Submit manufacturer's electrical requirements for power supply wiring to fan units. Submit manufacturer's wiring diagrams for interlock and control wiring. Clearly differentiate between portions of wiring that are factory installed and portions to be field installed.
- D. Test Reports: Submit for each fan, complete performance curves showing Static Pressure vs CFM; HP vs CFM and efficiency vs CFM. Curves shall show operator all she rated RPM and at 20% above and below the rated RPM. In addition submit the noise rating in decibels (flat response without network), at the design (flat response without network), at the design operation point for each fan.
- E. Maintenance Data: Submit maintenance instructions, including lubrication instructions, motor and drive replacement, and spare parts lists. Include this data, product data, shop drawings, and wiring diagrams in maintenance manuals in accordance with requirements of Division 1.

1.5 DELIVERY, STORAGE AND HANDLING

- A. Deliver centrifugal fans with factory-installed shipping skids and lifting lugs; pack components in factory-fabricated protective containers.
- B. Handle centrifugal fans carefully to avoid damage to components, enclosures and finish. Do not install damaged components, replace and return damaged components to manufacturer.

- C. Store centrifugal fans in clean dry place and protect from weather and construction traffic.
- D. Comply with manufacturer's rigging and installation instructions for unloading centrifugal fans and moving them to final location.

1.6 SITE CONDITIONS

- A. Contractor shall examine the drawings, visit the site, and take measurements to make sure that the equipment will fit in the spaces allocated, and that the equipment can be brought to the site.

1.7 MAINTENANCE

- A. Furnish to the City of New York, one spare set of belts for each belt driven fan.

PART 2 - PRODUCTS

2.1 FANS

A. General

1. Fans shall be of type, capacity, motor location, discharge location, rotation and constructed for Class 1 operating limits, unless otherwise indicated. Fans shall be guaranteed not to overload the motor under any condition. Unless otherwise called for, all fans shall be arrangement No. 3 or as noted on the drawings.
2. Select fans for the air quantities and static pressure indicated on the drawings, of size and speed so as to allow for a change in volume, without operating in an unstable range.
3. The requirements of this Section do not apply to centrifugal fans incorporated in catalogued completed packaged units, unless otherwise indicated.

2.2 CENTRIFUGAL FANS

A. General

1. Provide centrifugal fans of sizes and arrangement, and of capacities and having accessories as scheduled and as indicated on the drawings.

B. Fan Units

1. Provide factory-assembled and tested fan units consisting of housing, wheel, fan shaft, bearings, and side support structure. Clean condition and prime paint sheet metal parts prior to final assembly. Apply final coat of enamel to exterior surfaces after assembly. Each fan shall bear the Certified Ratings Performance Seal of the AMCA, do not cover the

seal with paint. All outdoor installed fans shall be weatherproof construction.

C. Housings

1. Provide curved scroll housings; lockseam construction for sizes 36" and smaller and spot welded construction for sizes 36" to 60".

D. Wheels

1. Provide backwardly inclined plate-type blades for sizes 22" and smaller, non-power-overloading backwardly inclined air foil blades for sizes 24" and larger. Weld blades to wheel rim and hub plate. Key wheels to shafts. Statically and dynamically balance wheels after assembly.

E. Shafts

1. Construct of solid hot-rolled steel, turned and polished.

F. Provide either oil lubricated babbitted sleeve bearings or grease lubricated ball (or roller) bearings, in accordance with the following requirements.

1. Sleeve Bearings: These bearings shall be lined with the best grade babbitted metal and shall be self-lubricated by means of ring oilers. An oil cup and an oil gauge with shield shall be provided for each bearing and shall be installed in an accessible location. Graphite impregnated bearings will not be accepted. Wearing surfaces of each bearing shall be self-aligning, easy of adjustment and larger enough to operate with minimum heating. They shall be enclosed in heavy wrought or cast iron standards, securely bolted in place. Bearings on the drive side of fans shall be non-expansion type, and those on the opposite side shall be expansion type. Sleeve bearings shall be Dodge Manufacturing Corp., Sleeveoil Plain Pillow Blocks (or Approved Equal).
2. Ball or Roller Bearings
 - a. These bearings shall be designed for heavy duty service. Bearings on drive side of fans shall be non-expansion type, and those on the opposite side shall be expansion type. Bearings shall be self-aligning pillow-block type with either single row ball or double row spherical roller in one-piece or two-piece cast iron housing.
 - b. Fan manufacturer shall certify that bearings being furnished have been selected in accordance with bearing manufacturer's recommendation for a minimum B-10 life of 40,000 hours (average life of 200,000 hours), based on the optimum speed range of the fan's AMCA class. Calculations of bearing manufacturer shall be supplied, if required.

- c. Each bearing shall be equipped with a lubrication pressure fitting, provided with pressure relief feature to prevent excessive pressure build-up on the seals. Contractor shall furnish to the Authority one pound of recommend lubricant for each fan, and one lubrication gun for the entire project.
- d. Each fan having a wheel diameter of 27 inches or less shall have two ball bearings, either in a single pillow block or in separate pillow blocks.
- e. Bearings shall be manufacturer by:

Dodge Manufacturing Co.
Fafnir Bearing Co.
Link-Belt Co.
Sealmaster
SKF Industries

G. Motors

- 1. Provide energy efficient motors in accordance with Section 230513 – Common Motor Requirements for HVAC Equipment.

H. Drive

- 1. Provide multiple matched V-belt drive with minimum 1.4 times rated motor horsepower. Provide adjustable pitch sheave on motor shaft, selected for midpoint at design conditions.

I. Vibration Control

- 1. Provide as specified on Section 230548 – Vibration Controls for HVAC Piping & Equipment.

J. Accessories

Provide the following accessories as indicated and/or scheduled on the drawings:

- 1. Access Doors: Provide access door in scroll housing, with latch-type handles, flush mounted.
- 2. Extended Grease Lines: Extend grease lines from bearings to outside of inlet duct flange, terminate with grease fitting.
- 3. Heat Slings: Provide metal disc between bearings and fan wheel, to dissipate heat from shaft.
- 4. Shaft Seals: Provide tight seal around shaft on drive side.

5. Belt Guards: Provide ventilated belt guards with tachometer opening for fan speed measurements, in accordance with OSHA requirements.
6. For fans mounted on the roof, provide outdoor construction design and protective weather hood with stamped vents over motor and drive compartment.

K. Available Manufacturers

1. Subject to compliance and approval with requirements, manufacturers offering centrifugal fans which may be incorporated in the work include the following:

Greenheck
Cook
Penn Ventilator Co. Inc.

2.3 INLINE CENTRIFUGAL FANS

A. General

Provide inline centrifugal fans of sizes and arrangement as indicated and of capacities and having accessories as scheduled all as indicated on the drawings.

- B. Fans shall be of the duct mounted centrifugal belt driven in-line type.
- C. The fan housing shall be of the square design constructed of heavy gauge galvanized steel and shall include square duct mounting collars.
- D. Fan construction shall include two removable access panels located perpendicular to the motor mounting panel. The access panels must be of sufficient size to permit easy access to all interior components.
- E. The fan wheel shall be centrifugal backward inclined, constructed of aluminum and shall include a wheel cone carefully matched to the inlet cone for precise running tolerances. Wheels shall be statically and dynamically balanced.
- F. Motors shall be heavy duty ball bearing type, carefully matched to the fan load and furnished at the specified voltage, phase and enclosure. Motors and drives shall be mounted out of the air stream. Motors shall be readily accessible for maintenance.
- G. Precision ground and polished fan shafts shall be mounted in permanently sealed, lubricated pillow block ball bearings. Bearings shall be selected for a minimum (L50) life in excess of 200,000 hours at maximum cataloged operating speed.
- H. Drives shall be sized for a minimum of 150% of driven horsepower.

- I. Pulleys shall be of the fully machined cast iron type, keyed and securely attached to the wheel and motor shafts.
- J. Motor pulleys shall be adjustable for final system balancing. A NEMA 1 disconnect switch shall be provided as standard. Factory wiring shall be provided from motor to the handy box.
- K. Each fan shall bear a permanently affixed manufacturer's nameplate containing the model number and individual serial number for future identification.
- L. Gas room ventilation fan shall be explosion proof construction.
- M. Fans shall be Model BSQ as manufactured by Greenheck Fan Co. or equal.

2.4 SHOP PAINTING

- A. Fans and steel fabrication shall be factory coated with one coat of zinc chromate primer and one coat of machine enamel on both the exterior and interior surfaces, except the name plates. Apply finish paint after erection.
- B. For roof mounted fans, all steel components shall be coated with thermally fused epoxy.

2.5 SHOP TESTS.

- A. Balance fan wheels statically and dynamically prior to final operating tests with motor and drive in place.
- B. Test, rate and certify fans in accordance with AMCA Standard 210 at an AMCA approved laboratory; fans shall bear AMCA seals. In lieu of shop performance tests, unless otherwise specified in the Schedules shown on the drawings, certified performance characteristic curves of prototype fans of similar units may be submitted for approval.
- C. Sound rate fans in accordance with AMCA Standard 300; fans shall bear AMCA seals. Sound rating shall be based upon actual fan tests or upon prototype tests of similar units.

PART 3 - EXECUTION

3.1 INSPECTION

- A. Examine areas and conditions under which fans are to be installed. Do not proceed with work until satisfactory conditions have been corrected in manner acceptable to the Commissioner.

3.2 INSTALLATION

A. General

Install fans in the location indicated on the drawings and in accordance with manufacturer's installation instructions, and with recognized industry practices, to ensure that centrifugal fans comply with requirements and serve intended purposes.

B. Access

Provide access and service space around centrifugal fans as indicated, but in no case less than that recommended by manufacturer.

C. Isolation

Set centrifugal fans on vibration isolators; fasten in accordance with manufacturer's installation instructions.

D. Electrical Wiring

Install electrical devices furnished by manufacturer but not specified to be factory-mounted. Furnish copy of manufacturer's wiring diagram submittal to Electrical Contractor. Verify that electrical wiring installation is in accordance with manufacturers submittal and installation requirements of Division 26. Ensure that rotation is in direction indicated and intended for proper performance. Do not proceed with centrifugal fan start-up until wiring installation is acceptable. Interlock wiring between fan units; and between fans and field-installed control devices. Provide control wiring between field-installed controls, indicated devices and fan starters.

E. Controls

Provide controls specified under Section 230993 - "Instrumentation and Control for HVAC."

F. Ductwork Connections

Refer to Ductwork sections. Provide flexible connections on inlet and outlet duct connections as required.

G. Coordinate all trades to ensure that the installation of fans is not in conflict with the work performed by other trades.

3.3 FIELD QUALITY CONTROL

A. Upon completion of installation of centrifugal fans, and after motor has been energized with normal power source, test equipment to demonstrate compliance with requirements. Where possible, field correct malfunctioning equipment, then retest to demonstrate

compliance. Replace equipment, which cannot be satisfactorily corrected.

3.4 ADJUSTING AND CLEANING

- A. Start-up, test, and adjust centrifugal fans in presence of manufacturer's authorized representative.

END OF SECTION

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SECTION 233713 - DIFFUSERS, REGISTERS AND GRILLES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Contract Documents: The work of this section with the Contract Documents, including the General Conditions, the Supplementary Conditions and Division 1 - General Requirements.

1.2 SUMMARY

- A. General: Provide all plant, labor, tools, appliances, equipment, materials and services required for the work indicated on the drawings and specified in this section.
- B. Work Included: The work includes, but is not necessarily limited to the following:
 - 1. Provide all air inlets and outlets as specified herein, as indicated on the drawings, and as needed for a complete and proper installation.
- C. Related Work:
 - The following related items are specified in other sections of the specifications:
 - 1. Metal Ducts Section 233113
 - 2. Air Duct Accessories Section 233300
 - 3. Testing for HVAC Section 230593
 - 4. Balancing Section 230593.1

1.3 QUALITY ASSURANCE

- A. Manufacturer's Qualifications: Firms regularly engaged in manufacture of registers, grilles and diffusers of types and sizes required, whose products have been in satisfactory use in similar service for not less than 3 years.
- B. Codes and Standards:
 - 1. ARI Compliance: Test and rate air outlets in accordance with ARI Standard 650 "Standard Air Outlets and Inlets".
 - 2. ASHRAE Compliance: Test and rate air outlets and inlets in accordance with ASHRAE 70 "Method of Testing for Rating the Air Flow Performance of Outlets and Inlets".
 - 3. ADC Seal: Provide air outlets and inlets bearing ADC certified Rating Seal.

1.4 SUBMITTALS

A. Product Data

Submit manufacturer's catalog sheet product data for air outlets and inlets including the following:

1. Schedule of air outlets and inlets indicating drawing, designation, room location, number furnished, model number, size, and accessories furnished.
2. Data sheet for each type of air outlet and inlet, and accessory furnished; indicating construction, finish and mounting details.
3. Performance data for each type of air outlet and inlet furnished, including blade setting angle, cfm, pressure drop, temperature and velocity traverses, throw and drop, and noise criteria ratings. Indicate selections on data.

B. Shop Drawings

Submit assembly-type shop drawing for each type of air outlet and inlet, indicating materials and methods of assembly of components.

C. Maintenance Data

Submit maintenance data, including cleaning instructions for finished, and spare parts lists. Include this data, product data, and shop drawings in maintenance manuals; in accordance with requirements of Division 1.

1.5 DELIVERY, STORAGE AND HANDLING

- A. Deliver air outlets and inlets wrapped in factory-fabricated fiber-board type containers. Identify on outside of container type of outlet or inlet and location to be installed. Avoid crushing or bending and prevent dirt and debris from entering and settling in devices.
- B. Store air outlets and inlets in original cartons and protect from weather and construction work traffic. Where possible, store indoors; when necessary to store outdoors, store above grade and enclose with waterproof wrapping.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Subject to compliance with requirements of this Section, provide air outlets and inlets except louvers of one of the following manufacturers:

Titus Products Div.
Anemostat Products Div.
Carnes
Tuttle and Bailey

2.2 FABRICATION

- A. Return or Exhaust Registers: Return or exhaust registers shall be equipped with an opposed blade or multi-shutter volume control device of steel, with the blades linked to operate in unison. This device shall be attached to the back of the register flange, and shall be adjustable for required air volumes by use of a screw driver, Allen wrench, (or other approved means) through the front face of the register. Opening area through the blades in each case shall be not less than the opening area of the register.
- B. Supply Registers
1. The volume of air delivered through each supply register shall be controlled as follows: Where the branch duct connection is more than 2 feet long, an opposed blade volume control shall be secured to the back of the register flange. Where the branch duct connection, and opposed blade volume control shall be secured to the back of register flange. Each opposed blade volume control shall have its blades linked so as to operate in unison. Volume control shall be adjustable for required air volume by use of a screw driver, Allen wrench, (or other approved means) through the front face of the register.
 2. All supply registers shall be constructed so that the bars can be adjusted to such positions as to produce the distribution of the air called for on the drawings. All supply registers shall be adjustable horizontally and vertically; the registers shall have double cores with the bars of each core adjustable.
- C. Fire Damper Registers (Supply & Return/Exhaust)
- Where the drawings indicate a fire damper register (6x6 T.R.W/FD) to be installed, Contractor shall supply a register, an interlocking blade type fire damper and a volume control device, all assembled and installed as required. Fire dampers shall be Board of Standards and Appeals approved and shall be so labeled. Register volume control shall be as specified.
- D. Air Diffusers:
1. Air diffusers shall be of the square or rectangular type as indicated on the drawings and shall be of the size to deliver the cubic feet of air per minute required. Diffusers shall be made of steel with baked enamel finish in a color as selected by the Commissioner.

2. Each diffuser shall be securely fastened to the ductwork by screws equally spaced around the collar. Contractor shall furnish proper size No. 14 gauge galvanized steel frames for the air diffusers to be installed in gypsum board ceilings and shall deliver them to the General Construction Contractor who shall install them.
 3. Each square diffuser shall be provided with equalizing deflector vanes and with a splitter damper for volume control. Splitter damper shall be operable from the face of the diffuser.
- E. Exhaust or transfer grilles shall be the same kind as return exhaust registers without volume balancing damper.

PART 3 - EXECUTION

3.1 INSPECTION

- A. Examine areas and conditions under which registers and diffusers are to be installed. Do not proceed with work until unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. Install air outlets and inlets in accordance with manufacturers written instructions.
- B. Coordinate with other work, including ductwork and duct accessories, as necessary to interface installation of air outlets and inlets with other work.
- C. Contractor shall assume the responsibility to coordinate the proper frame style with the ceiling construction.
- D. Contractor shall assume the responsibility to coordinate the air outlet and inlet location with the reflected ceiling plans, lighting plans, sections and/or details.
- E. Contractor shall assume the responsibility to coordinate the color requirements for all registers and diffusers with the Commissioner.

END OF SECTION

SECTION 260500 - COMMON WORK RESULTS FOR ELECTRICAL

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Contract Documents: The work of this section shall comply with the Contract Documents, including the General Conditions, the Supplementary Conditions, Division 1 - General Requirements.

1.2 SUMMARY

- A. Drawings are diagrammatic and are a graphic representation of contract requirements to the best available standards at the scale required. Light and power and miscellaneous system riser diagrams, as well as schematic diagrams (when indicated), generally indicate connections to be used for various systems and equipment. Systems conduit and wiring shall be as required for the actual systems installed on this Project. Provide all work shown on diagrams whether or not it is duplicated on the plans. Provide riser diagram and required work for all systems as required in coordination with equipment vendor.
- B. General:
 - 1. The specifications and the accompanying drawings are intended to secure the provision of all material labor, equipment, and services necessary to install complete, tested, and ready for operation the Electrical Systems in accordance with the Specifications and Drawings. All systems shall be complete with all necessary appurtenances and minor auxiliaries, including pull boxes, offset to cleat interferences, and supports which are not shown but which are needed to make each system complete in every respect. All work described in the Specifications and not shown on the drawings, or vice versa, shall be furnished in complete working order. If mention has been omitted of any item of work or material, necessary for completion of the system, then such items must be and are hereby included.
 - 2. Furnish and install the following:
 - a. Power and light distribution system (system characteristics, equipment).
 - b. Lighting, power, and distribution panelboards.
 - c. Fuses or circuit breakers.
 - d. Installation and wiring of individual controllers.
 - e. Installation and wiring of individual starters.

- f. Safety and disconnect switches, unless furnished with starters or on equipment. Weatherproof devices for outdoor equipment.
- g. Motor power wiring.
- h. Raceways and installation components.
- i. Wire and cable.
- j. Electrical work in connection with equipment specified and furnished under other sections of this specifications.
- k. Grounding system in conformance with applicable codes.
- l. Wiring devices.
- m. Interior lighting fixtures, including lamps.
- n. Furnishing, installing, and connection of electric heating floor bathrooms, including controls (where applicable).
- o. Power wiring for unit heaters.
- p. Furnishing of access doors.
- q. Furnishing and setting for all sleeves through the floors, roof, and wall for electrical work including waterproofing and cap flashing.
- r. Rough hardware, such as inserts, bolts, etc., associated with concrete work.
- s. Cutting and core drilling.
- t. Prime painting, where required for electrical equipment and installation.
- u. Provision for temporary light and power.
- v. Performing all testing and adjusting and furnishing all certificates of approval of all agencies having jurisdiction, including those of Underwriters Laboratories, Inc.

C. Related Work: The following related items are specified in other sections of the specifications:

- 1. Furnishing and setting of motors, adjusting thermal elements and replacing thermal overloads if necessary. Sub-Contractor shall install and provide power to starters furnished by the Sub-Contractor furnishing equipment

being controlled. Control wiring and furnishing of control devices shall be by others.

2. Installation of electric valves, float switches, and pressure and pneumatic-electric switches, stats and related control devices (where applicable).
3. Furnishing and installing HVAC temperature control boards, supervisory temperature control and energy management systems (where applicable).
4. Cutting and Patching DDC General Conditions
5. Identification for Electrical Systems Section 260553

1.3 QUALITY ASSURANCE AND STANDARDS

A. Quality Assurance:

1. The Drawings issued with these Specifications showing the layout of the electrical work, are diagrammatic, and indicate the approximate locations of lighting fixtures, receptacles, low voltage systems, outlets, panel boards, motor connections and other electrical apparatus. All locations shall be subject to the approval of the Commissioner, who reserves the right and privilege to make any reasonable change in the locations indicated, prior to installation without additional cost to the City of New York.
2. All appurtenances necessary for the completion and successful operations of the Work, whether or not herein specified or indicated on the Drawings, shall be considered part of the work and shall be furnished and installed as if so detailed or shown.
3. The Electrical Sub-Contractor, before installing any of the electrical work, shall verify the clearance required for finished columns, partitions, walls, or other items of physical construction, as shown on the Architectural Drawings. If any electrical work is installed and it is later determined that the placement shown cannot be followed, the Electrical Sub-Contractor shall at his own expense, modify the electrical work as directed by the Commissioner.
4. Immediately after the layout of the partition, pilasters and walls has been completed for any floor, the Electrical Sub-Contractor shall inspect to determine that all conduit stubs are correctly located. All necessary corrective work shall be done at that time at no additional cost to the City of New York.

5. All panelboards, junction boxes, outlet boxes, and other electrical apparatus shall be set plumb and true, and shall be firmly secured to the physical construction. The Electrical Sub-Contractor shall supply all necessary supporting steel, anchors, bolts and brackets as required. Outlet boxes, panel boxes, junction boxes, back boxes shall be inspected immediately prior to the start of the work of any contractor whose work connects to the apparatus set by the Electrical Sub-Contractor. Sub-Contractor shall be responsible for any damage caused by it to the Work of other contractors in the process of modifying of any electrical equipment or apparatus after said Work of other contractors has been erected or installed.
6. The Electrical Sub-Contractor shall familiarize himself with any space limitation effecting the installation of all equipment such as junction boxes, pull boxes, switches, to be accessed for operation and maintenance and shall install such equipment in a manner that makes them easily accessible. Job conditions may indicate that the position of some electrical equipment as shown on the plans is not easily accessible. In such cases the Electrical Sub-Contractor shall bring this to the attention of the Commissioner before installing said equipment and shall be guided by the Commissioner's instructions.
7. In finished areas, all Work shall run concealed in floor or wall construction.

B. Standards

1. The complete installation shall be in accordance with the applicable requirements and standards of the latest issue of the New York City Electrical Code (NYCEC), National Electrical Manufacturers Association (NEMA), National Fire Protection Association (NFPA), Institute of Electrical and Electronic Engineers (IEEE), American National Standard Institute (ANSI), Occupational Safety and Health Administration (OSHA), National Electrical Safety Code, New York State Uniform Fire Prevention, Insulated Cable Engineers Association (ICEA), Underwriters' Laboratories (UL), Factory Mutual (FM), Factory Insurance Association (FIA), National Electrical Contractors Association (NECA) "Standard of Installation," Local Inspection Agency, Consolidated Edison Co., of New York, along with state and municipal codes and all applicable standards and codes all authorities having jurisdiction.
2. Electrical equipment, materials, and appliances shall have the listing of the Underwriters' Laboratories, Inc., with the description and date of listing and shall bear labels attesting to UL listing, and types approved by Municipal Departments having jurisdiction.

3. Before submitting his bid, the Electrical Sub-Contractor shall familiarize himself with the rules of all municipal and public authorities having jurisdiction, and he shall notify the Commissioner, if in his opinion any work or materials specified is contrary to any such rules. Otherwise, the Electrical Sub-Contractor shall be responsible for the approval of all work or materials.

1.4 SUBMITTALS

- A. Submit shop drawing in accordance with requirements of DDC General Conditions. In addition, comply with B. and C. below.
- B. The Electrical Subcontractor will submit all shop drawings in the scale as directed by the Commissioner to facilitate coordination with the shop drawings of other trades. Submission of shop drawings shall be made in ample time before the scheduled installation to allow comments by the Commissioner. Any equipment or installation ordered prior to final approval that does not meet the specifications may be deemed unacceptable. Approval of the shop drawings is only an aid to the Electrical Subcontractor of any of its responsibilities and obligation under this Contract.
- C. This Electrical Subcontractor shall submit shop drawings with descriptive literature of all work and equipment including, but not limited to the following items for approval.

1.5 COORDINATION OF WORK AND TRADES

- A. The Electrical Work shall be coordinated with the work of other contractors and so arranged that there will be no inconvenience or delays in the installation and completion of any work of each trade. The Electrical Sub-Contractor shall review the Architectural, Plumbing, and HVAC contract drawings and the shop drawings submitted by the contractors, so as to avoid any possibility of conflict of the electrical work with the work of these or any other contractors. The Electrical Sub-Contractor shall give all others whose work connects with its work, all necessary information required for the proper installations of their Work without necessary delay.
- B. The Electrical Sub-Contractor shall keep in mind that time is of the essence in this contract. It shall be therefore, understood and agreed that the Electrical Contractor will staff the job with sufficient labor, so that at no time will he cause delay to the progress of the project.
- C. The height of all receptacles, switches, equipment outlets, telephone outlets, etc., shall be as per A.D.A., A.N.S.I. and shall be submitted to the Commissioner for approval.
- D. No electrical work shall interfere with plumbing pipes, heating pipes, duct work, sprinkler lines, etc. Should any such interference occur, the Electrical Sub-Contractor shall be required to make the necessary adjustments without additional cost to the City of New York.

1.6 CUTTING AND PATCHING

- A. Cutting of finished construction, wherever required for proper installation of the electrical work, shall be done by the G.C. Cutting shall be validated for the installation of sleeves and inserts. If cutting is required by this Sub-Contractor's failure to coordinate and allow sufficient time for his work, the cost shall be borne by this Sub-Contractor. Patching will be done by others.
- B. Ample time notice shall be given of any special openings necessary for placing equipment in the building.

1.7 GAUGES

- A. Unless otherwise specified, all wire and cable sizes given shall be American Wire Gauge (or Approved Equal).

1.8 ACCESSIBILITY

- A. The Electrical Sub-Contractor shall fully familiarize himself with any peculiarities and limitations of the space available for the installation of electrical equipment, such as junction and pullboxes, panels, switches and other apparatus as may be necessary to be reached for operation and maintenance, which shall be made easily accessible.
- B. Although the location of equipment may be shown on the drawings in certain places, the construction may disclose that the location of this electrical work is not suitable. In such cases, the Electrical Sub-Contractor shall bring this to the attention of the Commissioner for evaluation and shall be guided by his written direction.

1.9 TESTS

- A. Upon completion of the Work, the Electrical Contractor shall furnish a certificate of approval from the New York City Advisory Board and local inspection authorities having jurisdiction, indicating that all electrical work in the building has been inspected and meets with all requirements of their codes and regulations.
- B. The entire electrical installation shall be tested by the Electrical Sub-Contractor in the presence of the Commissioner, and shall be in perfect operating order, with all fixtures, lamps, fuses and appurtenances properly installed in place.
- C. The Electrical Sub-Contractor shall guarantee the entire installation against defects and shall certify that wires are clear of grounds or short circuits when tested with a 500 volt meter. Circuits shall be tested with a 1000V megger to show that insulation resistance is greater than 200,000 ohms.
- D. Provide necessary testing equipment, instruments, and skilled personnel for the tests. If in the opinion of the Commissioner, the results of such tests show that

the work has not complied with the requirements of the Specifications or Drawings, the Contractor shall make all additions or change necessary to put the system in proper working condition and shall pay for all the expenses including all subsequent tests which are necessary to determine whether the work is satisfactory. Any additional work or subsequent tests shall be carried out at the convenience and to the satisfaction of the Commissioner, prior to final payment.

- E. The tests shall cover but not be limited to the following:
1. Distribution system.
 2. Power installations and motor controls.
 3. Light installations and circuit switching.
 4. Any part of the work called for in the Specifications, Drawings and as designated by the Commissioner.

1.10 PERMITS, CERTIFICATES AND FEES

- A. Obtain and deliver a final Certificate of Approval from the applicable inspection authority having jurisdiction. Deliver all inspection certificate and approvals to the Commissioner upon completion of the work.

1.11 PROTECTION, MAINTENANCE AND PRODUCT HANDLING OF ELECTRICAL EQUIPMENT

- A. Electrical equipment shall be delivered, stored and protected at the site, properly packed and crated until ready to be installed. Store materials in spaces as designated by the Commissioner. If necessary, equipment shall be shipped from manufacturer in crated sections of size suitable for moving through limited spaces.
- B. Uninstalled equipment and materials shall be adequately protected against stealing, damage caused by water, paint, fire, plaster, moisture, acids, fumes, duct or other environmental conditions, or physical damage, during delivery, storage, installation and shutdown conditions. This Contractor shall replace any damaged or stolen material at no additional cost to the City of New York.
- C. Provide adequate protection for all material and equipment against damage. Do no work when temperature in area, or moisture around materials or substrates are not in accordance with material manufacturer's recommended conditions for installation.
- D. This Sub-Contractor shall be responsible for the protection of all equipment and systems installed, until final acceptance by the Commissioner. Operation of equipment by the Commissioner does not constitute an acceptance of the work. Work will be accepted only after the Contractor has tested his equipment, demonstrated that it meets the requirements of the Drawings and Specifications, and has furnished all required certificates.

- E. This Sub-Contractor shall guarantee in writing to the Commissioner that all work installed by him is free of defects and that all apparatus will deliver the capacities and characteristics as indicated, and that, if during a period of one (1) year from date of final approval of work, any defects in workmanship, materials or performance surface, he will fix them at no cost to the City of New York.
- F. Provide adequate protection against damage of material and equipment during storage at the Project Site. Cover stored equipment to protect against dust and moisture. Place stored conduit on dunnage with appropriate weather cover and caps on exposed ends.
- G. After cabinets and boxes are installed, cover openings to prevent intrusion of water and foreign materials. Close conduit openings with temporary metal or plastic caps, including those terminated in cabinets.
- H. Protect and finished floors and other finished surfaces from damage which may be caused by construction materials and methods. Protect floors with tarpaulins, chip pans and oil-proof floor covering. Protect finished surfaces from welding and cutting splatters with baffles and asbestos splatter blankets. Protect finished surfaces from paint droppings, adhesive and other marring agents with drop cloths. Protect other surfaces with appropriate protective measures.

1.12 DELIVERY AND RECEIVING

- A. This Electrical Subcontractor shall accept delivery of all electrical equipment furnished by others at sidewalk as is normally handled.
- B. This Electrical Subcontractor shall sign receipts for the equipment and assume complete responsibility for hoisting, moving, storage, loss, breakage protection, etc., of these items until installation and final acceptance thereof, provided such materials are delivered as per the established project schedule. This Electrical Subcontractor shall immediately notify the supplier of any damaged or defective materials or shortages and note same on both the Vendor's and City of New York's copies of the delivery tickets. The City of New York's copy of the delivery ticket shall be turned over to the City of New York as soon as materials are received.

1.13 NAMEPLATES

- A. Furnish a nameplate for each separately installed distribution switch and circuit breaker, each individual panel, disconnect switch, starter, push-button station and electrical equipment enclosure.
- B. Unless otherwise noted, nameplates shall be black laminate with white letters of uniform size consisting of reasonably large capital letters, easily visible.
- C. Inscriptions shall consist of name and number equipment as shown on the Drawings and as approved by the Commissioner.

1.14 NAMES AND TRADE NAMES

COMMON WORK RESULTS FOR ELECTRICAL

- A. Where trade and manufacturers' names are specified or indicated on the Drawings, they are intended to indicate the standard of material or articles required. This shall not eliminate the responsibility of the Contractor from validating the equipment's compliance with all rules and regulations governing the use of such equipment. No purchase of any equipment shall be done without written authorization, if such equipment will not abide by all rules and regulations, covering its intended use.

1.15 MATERIAL AND WORKMANSHIP

- A. All material shall be new, of the latest technology and of the best quality and shall have the Underwriters Laboratories label attached. The label shall be of the type for the intended application. The work throughout shall be executed in the best and most efficient manner under the direction of, and to the satisfaction of the Commissioner who will interpret the meaning of the Drawings and Specifications. The Commissioner shall have the power to reject any work and materials which, in his opinion, is not in full accordance therewith.
- B. If, after installation, operation of the equipment proves to be unsatisfactory to the Commissioner by reason of defects, errors or omissions, the Commissioner reserves the right to operate equipment until it can be removed from service for correction by Contractor. Contractor shall pay for all the work, materials, damages and supervision as well as the work of other trades caused by this defective equipment and its replacement.

1.16 GUARANTEE

- A. The Electrical Electrical Subcontractor shall guarantee in writing, that the entire electrical installation as installed is free from defects and there are no hazards, all materials, fixtures, equipment and workmanship, provided under this contract, for a period of one year from the date of the issuance of the permanent Certificate of Occupancy for the building and shall replace any part or parts found to be defective within the period of guarantee with acceptable materials and workmanship at absolutely no additional cost to the City of New York.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

END OF SECTION

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SECTION 260519 - LOW-VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES

PART 1 - GENERAL

1.1 CONDUCTORS

A. General Requirements

1. Unless requirements specified otherwise, all wires No. 10 AWG and smaller shall be solid; No. 8 AWG and larger shall be stranded.
2. Unless otherwise indicated, all control wiring shall be No. 14 AWG. Minimum size wire for power or branch circuit work shall be No. 12 AWG. Use No. 10 AWG wire to the first outlet for branch circuit runs more than 40 feet for 115 volt circuits.
3. All 600 volt wire and cable, unless otherwise specified, shall be single conductor suitable for use in wet and dry locations.
4. All conductors shall be annealed copper.
5. Interior Wire Types:
 - a. #10 and smaller: THW, THHN-THWN or TW.
 - b. #8 and larger: THHN-THWN.
 - c. In high ambient temperature locations, such as boiler plants and roofs, THW shall not be used.
6. All wire and cable shall be color coded as follows, unless otherwise authorized:

Phase	Color
208Y/120VAC	
A or 1	Black
B or 2	Red
C or 3	Blue
Neutral	White
Equipment Ground	Green

7. Where color coding is not practicable, such as for short runs of feeder cables, apply color coded pressure sensitive tape, half lapped, covering a

minimum of 6" of cable. With the authorization of the Commissioner and where color coded cables are not available on conductors of sizes No. 2 and larger, phase conductors may be provided with color stripes on black conductors. The stripes shall be two broken stripes, 180 degrees apart, at least 0.125" in width, of the identifying color with the name of the name of the color imprinted at least once every three inches. Where two different voltage systems are run in the same raceway, use grey or white with a stripe (not green) for one of the neutrals.

1.2 CABLE SUPPORTS

- A. Provide cable supports of the threaded metal conduit fitting type with a non-metallic insulated tapered plug with cable openings and complete with grounding lug in all pull boxes as required by Code. Support shall be O-Z Type "S" or as acceptable.

PART 2 - PRODUCTS

2.1 BUILDING WIRE AND CABLE

- A. Type AC (BX)/HFC shall be multi-conductor, armored cable rated 600 volts, suitable for general use in dry locations. The conductors shall be uncoated annealed copper with NED type 90 degrees C insulation, color coded, suitable for conductors, wrapped with a tough waterproof kraft paper. Provide an integral green covered grounding conductor in addition to the aluminum internal grounding conductor placed between the kraft paper and outer jacket; this shall be a flexible steel armor, continuous, spirally wound, interlocked and galvanized.
- B. Type Bare Ground Cable:
 - 1. Bare grounding cable shall be lead alloy coated or tinned, soft drawn copper, Class "B" stranded, in accordance with ASTM Standard B8.
- C. Type Fish Wire:
 - 1. Large conductors in 2" or larger conduit shall be pulled with polypropylene or acceptable rope. Small conductors may be pulled with similar ropes or fish tapes, except that flat steel fish tapes shall not be used.
- D. Type THW:
 - 1. Type THW insulation shall be heat and moisture resistant and flame retardant polyvinylchloride thermoplastic compound suitable for conductor temperatures of 75 degrees C in dry and wet locations. Insulation shall conform to IPCEA Standard S-61-403 and UL Standard #83.

E. Type TW:

1. Type TW shall be the same as Type THW, except rated at 60 degrees C in dry and wet locations.

F. Type THHN-THWN:

1. Type THHN-THWN insulation shall be polyvinylchloride thermosplastic compound insulation and with a nylon jacket. Insulation shall be suitable for conductor temperatures of 90 degrees C in dry and 75 degrees C in wet locations.

2.2 CONNECTORS

A. Connectors - Splices and Taps for 600 Volt Wire and Cable

1. For Wire No. 8 AWG and Smaller:
 - a. Splices and taps shall be pressure indent type with insulated cover; or insulated, rust-proofed spring thread on type. Manufacturer's recommended tooling shall be used. Connectors shall be Buchanan #2008-S or as acceptable.
 - b. Except where terminating in panelboards, switches and motor controllers, all terminations shall be made with compression lugs. The manufacturer's recommended tooling shall be used to apply. Where compression terminals are not isolated safely from other metallic parts, the nylon self-insulated type shall be used. Lug shall be Burndy "Insulug" or as acceptable.

2.3 CABLE SEALS

- A. Where cables pass through fire-rated, fire-resistant and/or fire-stopped floors and walls, use cable sleeves that prevent the spread of fire and the products of combustion. Sleeves shall be Nelson Electric "Multi-Cable Transit" or "Flameseal" or as acceptable.

2.4 ACCEPTABLE MATERIALS & MANUFACTURERS

A. Cable & Wire - 600 Volts and Below

American Steel & Wire Div.
Cablec
Cyprus Mines, Inc.
Essex Group
General Electric Co.
Kerite Co.
Okonite Co.
Pirelli Cable

Plastic Wire & Cable Co.
Rome Cable Co.
Triangle Conduit & Cable Co., Inc.

B. Cable Connectors, Splices & Taps - 600V #8 and Larger

Burndy Corp.
Thomas & Betts Co.
(or Approved Equal)

C. Cable Sealing Compound

B.S. Barnard Corp. "Duct Seal"
Johns-Manville "Duxseal"
(or Approved Equal)

D. Cable Fire Protection Sealing Compound

KBS Motor Seal MS50
(or Approved Equal)

E. Cable Supports, Spacers & Sleeves

O-Z/Gedney Co.
(or Approved Equal)

F. Cable Tags

W.H. Brady Co.
Thomas & Betts Co.
(or Approved Equal)

G. Wire Connectors, Splices & Taps - No. 10 and Smaller

Buchanan Electric Products Corp.
Burndy Corp.
Ideal Industries Inc.
Minnesota Mining & Mfg. Co.
Thomas & Betts Co.

PART 3 - EXECUTION

3.1 CONDUCTOR

- A. No wire shall be drawn into a raceway until work of a nature which may use cause injury is completed. Use lubricants acceptable to the Commissioner.

- B. All control and circuit wires in cabinets, boxes, panels, pull and junction boxes shall be trained neatly and tied. Terminate stranded conductors #8 and smaller in spade lugs.
- C. All wires and cables shall be continuous from original to destination. In branch circuit wiring, except at last outlet, make connections to fixtures or devices using "T" taps or making a triple splice in each conductor.
- D. All wires and cables in indoor dry locations in pull, splice and cable support boxes, in panels and points of termination shall be bundled and laced by circuits and tagged using nylon tie-wrap material, flame resisting tags of adhesive material or coded sleeves. Tags shall identify cables and pieces of equipment served.
- E. Completely isolate from one another all cables originating from different power or voltage supplies. DO NOT place in same enclosures unless suitable and acceptable isolation barriers are provided. This applies to all boxes, cabinets, pull boxes, cable support boxes, etc.
- F. All splices and connections outdoors or in interior damp locations shall be sealed with Minnesota Mining "E-Z Seal" or as acceptable.

END OF SECTION

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SECTION 260526 - GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 SCOPE OF WORK

- A. Except as otherwise specified under "Related Work Specified in Other Contracts" of Section No. 1, "Specific Requirements", the work under this Section shall consist of furnishing labor, materials, equipment and appliances necessary and required to completely furnish and install a grounding system as required by the New York City Electrical Code and any other local authorities having jurisdiction.
- B. All major equipment not carrying current, including the following items, shall be grounded:
 - 1. All conduits
 - 2. Neutral of electric service
 - 3. Safety switch, panelboards, controllers, motors and pull boxes.
 - 4. All non-current carrying metal parts of fixed and portable equipment.

PART 2 - PRODUCTS

2.1 EQUIPMENT GROUNDING

- A. Enclosure and/or frames for motor starters, breakers, safety switches, panelboards, raceway systems, motors and exposed metal parts of similar equipment, shall have solidly grounded cable connections to the grounding system. Solder lugs will not be permitted. Bolted connections to equipment shall be made in a manner to insure a permanent ground.
- B. Grounding conductors for motors shall be connected to the building ground system.

2.2 SYSTEM GROUNDING

- A. 120/208 volt systems shall have a grounded neutral solidly connected to the ground loop or grid.
- B. All grounding shall conform to the New York City Electrical Code (NYCEC).

- C. Single phase motor control circuit supplied from the secondary of control transformers in starter enclosures, shall be grounded.

2.3 FIELD TESTS

- A. The Contractor shall perform all field tests and shall provide all labor, equipment and incidentals required for testing, except that the Contractor will provide electric power required for the tests. All defective material and workmanship disclosed shall be corrected by the Contractor at no cost to the City of New York. The Contractor shall show by demonstration in service that all circuits and devices are in good operating condition. Tests shall be such that each item of control equipment will function not less than five times
- B. Insulation Resistance Test for Systems 600 Volts and Less: After all wiring is completed and connected ready for operation, but prior to placing systems in service and before any branch circuit breakers are closed, insulation resistance tests shall be made in all feeder, subfeeder circuits. The insulation resistance between conductors and between such conductor and ground shall be measured. Measurements shall be made with an instrument capable of making measurements at an applied potential of 5000 volts. Readings shall be taken after the voltage has been applied for a minimum of one minute. The minimum insulation resistance for circuits of No. 12 AWG conductors shall be 1,000,000 ohms. For circuits of No. 10 AWG or larger conductors, a resistance based on the allowable ampacity of the conductor shall be as follows:

25 through 50 amperes	250,000 ohms
51 through 100 amperes	100,000 ohms
101 through 200 amperes	50,000 ohms
201 through 400 amperes	25,000 ohms
401 through 800 amperes	12,000 ohms
Over 800 amperes	5,000 ohms

- C. Grounding system shall be tested to assure continuity and compliance with the requirement that ground resistances not exceed 25 ohms. Upon completion of the project, the Contractor shall submit to the Engineer, the measured ground resistance of grounding system. Ground resistance measurements shall be made in normally dry weather, not less than 48 hours after rainfall, and with the ground electrode under tests isolated from other grounds. Ground resistance shall also be measured from each piece of equipment to the ground electrode.

PART 3 - EXECUTION

3.1 GROUNDING

- A. Exothermically weld, mechanical connections passing IEEE 837 standard, or, where approved, braze ground connections.

- B. Ground in accordance with the NYCEC.
- C. Use a copper conductor jumper in parallel to all flexible conduit terminations. Drill, tap and bolt grounding conductor connections to the base or terminal box of motors.
- D. Make conduit ground connections to equipment with a threaded hub, or busing with two locknuts, one on either side of the box or cabinet.
- E. Ground instrument transformer secondaries for relays and control instruments.

END OF SECTION

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SECTION 260529 - HANGERS AND SUPPORTS FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 DESCRIPTION

- A. Related Documents: The general provisions of the Contract, including Bidding Requirements, General and Other Conditions, and Specific Requirements, apply to all work of this Section.
- B. Work Included in This Section:
 - 1. Methods of fastening and supporting conduit, raceways, boxes, panels, cabinets, lighting fixtures, disconnects and other equipment.
- C. Related Work Specified in Other Sections:
 - 1. Raceway and Boxes for Electrical Systems Section 260533
 - 2. Low-Voltage Electrical Power Section 260519
 Conductors and Cables
 - 3. Interior Lighting Section 265100

1.2 QUALITY ASSURANCE

- A. Applicable Standards:
 - 1. ASTM A123: Zinc (Hot Galvanized) Coating on Products Fabricated from Rolled, Pressed and Forged Steel Shapes, Plates, Bars and Strips.
 - 2. ASTM A153: Zinc Coating (Hot Dip) on Iron and Steel Hardware.
 - 3. ASTM A235: Carbon Steel Forgings for General Industrial Use.
 - 4. ASTM A307: Low-carbon Steel Externally and Internally Threaded Standard Fasteners.

1.3 SUBMITTALS

- A. Submit the following in accordance with the requirements of the General Conditions.
- B. Shop Drawings:
 - 1. Catalog cuts and data of mounting fittings and steel channels.

PART 2 - PRODUCTS

2.1 CONDUIT CLAMPS

- A. Surface Clamps: Malleable iron or galvanized steel assembly consisting of the following:
 - 1. Two hole, clamp back-spacer.
 - 2. One hole conduit clamp.
 - 3. Fastening hardware suitable for the installation.
- B. Beam Clamps: Malleable iron or galvanized steel beam clamps with galvanized or cadmium plated steel nuts and bolts.
- C. Hangers: Cadmium plated steel conduit hangers and clamping bolt.
- D. Manufacturers:
 - 1. Appleton
 - 2. O-Z/Gedney
 - 3. Thomas & Betts

2.2 CHANNEL SUPPORTS

- A. Framing Members: Cold formed low carbon strip steel. One side shall have a continuous slot with in turned clamping ridges.
- B. Fittings: Punch press made from hot rolled, pickled and oiled steel plates or strip.
- C. Nuts: Machined, case-hardened steel with unified and American coarse screw threads.
- D. Finish: Hot-dipped galvanized.

E. Manufacturers:

1. Unistrut
2. Kindorf
3. Wiremold

PART 3 – EXECUTION

3.1 FASTENING HARDWARE

- A. Conduit supports, clamps, hangers, fittings, channels, wireways, surface metal raceways, boxes, disconnects and other equipment where required to be surfaced fastened to ceiling, walls or partitions shall be secured as follows:
1. Masonry, Concrete or Brick: Use bolts and expansion shields.
 2. Hollow Tile, Wire Lath, Gypsum Wall Board: Use toggle bolts.
 3. Wood: Use brass wood screws.
- B. Do not use explosive nail driver devices.

3.2 CONDUITS

- A. Surface fastening of conduits to walls and ceilings shall be made with clamp back-spacer and conduit clamp assemblies.
- B. Single conduits surface mounted tight to structural beams shall be supported with beam clamps.
- C. Single suspended conduits shall be supported by galvanized conduit hangers and threaded galvanized rods as follows:
1. 3/8" through 1-1/4" conduit: 1/4" Rod.
 2. 1-1/2" through 3-1/2" conduit: 5/16" Rod.
 3. 4" conduit: 7/16" Rod.
- D. Single conduits suspended from ceilings or structural steel beams shall be supported with conduit hangers and threaded galvanized rods (sizes as indicated above) which shall be attached to beam clamps or hangers as required.

- E. Multiple suspended conduits shall be supported by steel channel framing members. Provide necessary rods, anchors, inserts, clamps, spacers, shims, bolts and miscellaneous steel as required for each support.
- F. Where exposed to the weather or high humidity, use nuts, bolts, washers, shims, and other small materials of non-corrodible metal or galvanized or cadmium-plated.
- G. Provide support, at spaced intervals, as required by the National Electrical Code for the type of conduit being installed.
- H. Construct all supports with sufficient rigidity to hold all mounted equipment and material in permanent and neat alignment.

3.3 BOXES

- A. Surface Mounting: Boxes shall be fastened directly to walls upon which they are mounted using appropriate fastening hardware as specified above.
- B. Recessed Mounting: Boxes mounted in brick, masonry or concrete walls shall be fastened directly to the wall using appropriate fastening hardware. Boxes mounted in hollow tile, wire lath or gypsum wallboard shall be fastened to the framing members of the wall directly or to brackets attached to the framing members.

3.4 PANELS AND CABINETS

- A. Surface Mounting: Equipment shall be mounted on steel channel framing members. Framing members shall be fastened directly to masonry, brick or concrete walls. Framing members shall be fastened to wall framing members, structural beams, etc. of hollow tile, wire lath or gypsum wallboard partitions. Do not fasten to such walls directly.
- B. Recessed Mounting: Equipment shall be mounted directly to brick, masonry or concrete walls. Mount to framing members of hollow tile, wire lath or gypsum wallboard partitions.

3.5 LIGHTING FIXTURES

- A. Pendant or Recessed Mounted: Support from building or hung ceiling structural or framing members using clamps, rods, stems, channels, etc. and appropriate fastening hardware. Do not support recessed lighting fixtures from hung ceilings.
- B. Surface Mounted: Attach fixtures directly to masonry, brick or concrete walls or ceilings using appropriate hardware. Attach fixtures to framing members of hollow tile, wire lath or gypsum wallboard ceilings or walls.

END OF SECTION

SECTION 260533 - RACEWAY AND BOXES FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 CONDUITS

A. General Requirements

1. Conduit sizes shall be in accordance with the National Electrical Code. Unless noted otherwise, conduit sizes are based on type THHN-THWN insulated conductors. Modify as required by code when other types are selected.

PART 2 - PRODUCTS

2.1 CONDUIT TYPES

A. Rigid Steel:

1. Steel conduit shall conform to ANSI Standard C80.1 and UL Standard #6 for rigid metallic conduit, except that steel conduit shall be hot dipped galvanized. All threads not hot dipped galvanized shall have an acceptable zinc coating.
2. Plastic coated conduit shall be NEMA RN-1 type A20 and shall be similar to the above, except with a minimum of 20 mil thick PVC coating bonded to the exterior along the full length and including a drawn-up coupling. Threads shall not be coated.

B. Flexible Metallic:

1. Flexible metallic conduit shall be threadless, continuous, spirally wound and interlocked, aluminum or zinc coated steel conforming to UL Standard #1 for flexible metal conduit.
2. CAUTION: Install an internal ground conductor sized according to Code in all flexible conduit used for light, power and control circuits.
3. Liquid Tight Flexible Steel

C. Liquid tight flexible steel conduit shall be similar to flexible metallic except with a PVC jacket. Conduit shall be anaconda "Sealtite" type UA or as acceptable.

1. CAUTION: When using liquid tight flexible conduit, wiring must be derated to 60 degrees C rating. Install on internal ground conductor sized according to Code in all liquid tight flexible conduit used for light, power, control circuits. When used for light, power and control circuits.

When used with isolated ground receptacles, install a second ground wire for the isolated ground system.

D. Electric Metallic Tubing:

1. Electric metallic tubing (EMT) shall be threadless type, steel, conforming to ANSI Standard C80.3 and UL Standard #797, with fused zinc on the outside and inside walls with an additional high corrosion-resistant finish coat.

E. Intermediate Metal Conduit:

1. Intermediate metal conduit shall be steel, conforming to UL Standard #1242, except that intermediate metal conduit shall be hot dipped galvanized. All threads shall be hot dipped galvanized shall have an acceptable zinc coating.

2.2 CONDUIT FITTINGS

A. Rigid and IMC Threaded Conduit:

1. All bushings for terminating conduit 1" and smaller shall be cast threaded type with smooth edge to prevent injury to wire and cable. Use aluminum bushings for aluminum conduit, and malleable iron or steel galvanized or cadmium plated for steel conduits.
2. Where conduits larger than 1" size are terminated, their interior locknuts shall be the bonding type, Thomas & Betts "106" Series or as acceptable; bushing shall be the insulated plastic type, rated for 150C, T&B Series 510 or as acceptable. Where conduits larger than 1" size terminate in eccentric or concentric knockouts and where all of the knockout rings have not been removed, insulated grounded bushing shall be used. Insulated grounded bushings shall be cast, threaded type equipped with a lug for grounding. Upper edge shall have a nylon ring or a Bakelite ring which is molded into the bushing. Ground lug shall be sized to take conductor sized according to Code with a minimum size of No. 12. Use aluminum locknuts and grounding bushing with aluminum conduit, and galvanized or cadmium plated, malleable iron or steel locknuts and grounding bushings with steel conduits. If aluminum bonding locknuts are not available and when accepted by the Commissioner, bonding wedges may be used together with an interior aluminum locknut and a plastic bushing.

B. Thinwall (EMT) Conduit:

1. Where electrical metallic tubing is installed outdoors or in slabs, the couplings and connectors shall be rain tight, compression type, Thomas & Betts Series "5120" and "5121" or as acceptable; all other couplings may be the set screw type. On tubing larger than 1", use bonding

locknuts as described above for rigid conduit and insulation throat compression connections, Thomas & Betts Series "5123" or as acceptable. All couplings used in concrete shall be concrete tight.

C. Flexible Metallic Conduit (Greenfield) & Type AC (BX)/HFC Cable:

1. Where flexible metallic conduit or type AC (BX)/HFC cable is installed, connectors shall be Tite Bite type with nylon insulated throats as manufactured by the Thomas & Betts Co., Series "3110" with T&B Series "106" bonding locknut, or as acceptable.
2. See Section 260526 -- "Grounding and Bonding for Electrical Systems" for lengths of flexible conduit exceeding 6 feet.

D. Liquid Tight Flexible Steel Conduit (Sealtite):

1. Where terminating liquid tight flexible steel conduit (Sealtite), fitting assembly shall be sealing type consisting of steel gland, nylon ring and ground cone on the outside and a nylon insulated throat fitting on the inside. Fittings shall be Thomas & Betts Co., Series "5331" straight connector with Series "106" bonding locknut, or as acceptable. When terminating in a knockout, also use T&B Series "5262" sealing "O" ring, or as acceptable, with the Series "5331" fittings.

2.3 ACCEPTABLE MATERIALS & MANUFACTURERS

A. Concrete Inserts

P&S Wrought Iron Mfg. Co.
Steel City Electric Co.

B. Conduit - Flexible & Liquid Tight

American Flexible Conduit Co. (AFC)
American Metal Moulding Co.
American Metal Hose Div.
Triangle Conduit & Cable Co.
Wheatland Tube Co.

C. Conduit - Rigid Steel, IMC & EMT

Allied Tube & Conduit Corp.
Steel & Tubes Div., Republic Steel Corp.
Triangle Conduit & Cable Co., Inc.
Wheatland Tube Co.

D. Conduit - Rigid Steel Plastic Coated

Allied Tube & Conduit Corp.

ETP - Conduit & Electrical Fittings Div.
Robroy Industries, Conduit Div. (Pittsburgh)
Steel & Tubes Div., Republic Steel Corp.

E. Conduit Fittings - Metallic

Electrical Fittings Corp. (EFCOR)
O-Z/Gedney Co.
Thomas & Betts Co.

F. Conduit Sleeves - Fire Rated

Nelson Electric Div.
O-Z/Gedney Co.
(or Approved Equal)

G. Conduit Supports

Electrical Fittings Corp. (EFCOR)
(or Approved Equal)

PART 3 - EXECUTION

3.1 CONDUIT INSTALLATION

- A. Conduits shall be of such size and shall be so installed that the required conductors may be drawn in without injury or excessive strain.
- B. In general, run all conduit concealed in finished areas.
- C. Mechanically join all metal conduit, enclosures, raceways, etc, to form a continuous electric path. Indent fittings are not acceptable.
- D. Lay out and install all conduit runs as to avoid proximity to steam and hot water pipes. Do not run conduit within three inches of such pipes except where crossings are unavoidable, then the conduit shall be kept at least 1" from the covering of the pipe crossed.
- E. In general, run conduit to lighting fixtures concealed; in mechanical equipment rooms and fan rooms install conduit exposed.
- F. Support riser conduits at each floor level by rust proofed clamped hangers Kindorf Type C-210 or as acceptable to the Commissioner. Arrange hangers for minimum obstruction of opening when installed in pipe shafts. All conduit openings shall be fire stopped in an acceptable manner.

- G. When not terminated in a threaded hub, secure conduits entering sheet metal enclosures and outlet boxes in place by two locknuts (one inside and one outside) and terminate each conduit with a bushing.
- H. When running conduits outdoors or in fresh air intake plenums, install a compound filled sealing fitting immediately on the warm or building interior side of the wall where conduit enters and/or leaves the above locations. Conduit run in these cold locations shall slope toward sealing fittings and away from outlets and devices. Sealing fittings shall be drainable type, Crouse Hinds EYD or as acceptable, with drains toward cold sides. Install fittings at low points in the conduit system to permit draining of moisture. Where possible, conduits shall enter these locations from below. Terminate all conduits at outlets and devices in these spaces with threaded hubs.
- I. Encase service entrance conduits exceeding maximum length permitted by code in minimum of 2" of concrete.
- J. All empty conduits, except those which are vertical for their entire length and except conduits connecting ceiling lighting outlets together, shall have a fish wire. See Section 260519 - Low Voltage Electrical Power Conductors and Cables.
- K. Conduits for telephone system shall have a minimum bending radius of 36" for all conduits 1" size and larger.
- L. Do not support communications, signal or similar wiring from conduits.

3.2 CONCEALED CONDUITS

- A. Install conduit so as not to cut or run through structural members, except by special written permission of the Commissioner.
- B. Do not run conduits horizontally or crosswise in masonry or block building type partitions or side walls.
- C. Except for branch circuit work, install all conduit run in hung ceiling on acceptable hangers and inserts. Conduit for branch circuit work and control and instrument wiring shall be supported by clamps or pipe straps supported from the purlins (black iron) members supporting the ceiling where available, or from structural members or from the deck.
- D. In lay-in ceilings, install conduit high enough to permit removal of ceiling panels.

3.3 EXPOSED CONDUIT

- A. Run exposed conduit and extensions from concealed conduit systems parallel with or at right angles to the walls of the building, to present a neat and workmanlike appearance.

- B. Provide inserts for conduit hangers, clamps and clips as follows:
 - 1. With written authorization by the Commissioner, Kindorf or other acceptable beam clamps or holes drilled through slab with fish plates and nuts may be used in place of inserts.
- C. Support rigid metallic conduit runs on each side of bends, and not greater than 10'-0" on centers. All other conduit shall be secured as required by Code.
- D. Run conduits exposed on waterproofed walls for all outlets. Set anchors for supporting the conduits in waterproof cement.
- E. Conduit supports for groups of conduits shall be aluminum channel type with hot dipped galvanized rods, Kindorf type or as acceptable. Conduit supports for individual conduits shall be hot dipped galvanized or tinned malleable iron clamps T&B Series 1276 and 1376 or as acceptable for steel conduit, and cast aluminum type T&B Series 1276AL and 1376AL for aluminum conduits.
- F. Run conduits clear of shafts, openings, cable slots, telephone racks, etc. Do not support conduit or raceways from telephone frames, cable racks or superstructures.

3.4 EXPANSION FITTINGS

- A. Install a conduit expansion fitting in each conduit run in slab wherever it crosses an expansion joint in the structure and wherever the conduit run exceeds 140 feet. Expansion fittings shall be OZ Type DX as acceptable.

3.5 CONDUIT SLEEVES

- A. General
 - 1. Conduit sleeves shall be installed so that proper position and alignment will be maintained during construction of forms, pouring of concrete and setting of masonry.
- B. Sleeves Through Interior Walls
 - 1. Sleeves through interior non-fire-rated walls shall be a minimum of No. 20 gauge galvanized steel, black enameled rigid steel conduit or Schedule 40 PVC or black steel pipe. Aluminum conduit shall not be used. Where specific sizes are not indicated on the drawings, sleeves shall be sized to provide one-half (1/2") inch clearance around the outside surface of the item for which they are installed. They shall be cut flush with wall surfaces, and shall extend two inches above finished floor levels. The space between conduit and sleeves shall be packed with fiberglass or other acceptable non-combustible packing material to prevent passage of air, liquid or fumes from one area to another. Seal with "Duxseal" or other compound acceptable to the Commissioner.

2. Where conduits pass through fire-rated, fire-resistant and fire-stopped floors and walls, use sleeves that prevent the spread of fire and the products of combustion. Sleeves shall be O-Z/Gedney "Fire Seal", Nelson "Flame Seal" or as acceptable.

C. Sleeves Through Roofs and Waterproof Slabs

1. When penetrating a roof or a waterproof slab, install a copper tubing or brass pipe sleeve through the roof or slab. Sleeve shall extend at least 1" below and 2" above the roof or slab finish. Solder 20 oz. copper or 6lb. lead plate to the sleeve, and mount on roof membrane waterproofing. Plate shall extend a minimum of 12" all around from the outside of the sleeve. After conduit is installed, fill space between conduit and sleeve with oakum or untarred, uncoiled jute and seal the top and bottom to a depth of at least 1 1/2" with "Special Conduseal", "Duxsealer 4951" or other compound acceptable to the Commissioner. In lieu of the oakum and jute seal described above, the "Link Seal" fitting as manufactured by the Thunderline Corp. of Wayne, Michigan may be used.

D. Conduits Through Exterior Walls and Slabs on Grade

1. Where underground conduit enters the building through the wall or slab on grade, install a wrought iron or galvanized steel pipe sleeve through the wall or slab with pipe flange partly imbedded in slab or outside wall. Sleeve shall be flush on inside of building, and extend a minimum of 4" beyond the slab or wall on the outside. After installation of sleeve and flange, building slab or wall shall be grouted. After conduit is installed, apply untarred, uncoiled jute or oakum packing between conduit and sleeve in such a manner as to fill the space completely. Pack tightly. This shall extend into the sleeve at least 3 1/2" and be 2" deep. Insert "Special Conduseal", "Duxsealer 4951" or other acceptable compound to a depth of at least 1 1/2". To seal cable in conduit follow the above procedure, except jute and "Duxsealer" need be on the inside only. Cables shall be kept apart and away from edge of conduit by sealing material. In lieu of flanged pipe described above, a Clow #F1420 bell and spigot may be used; building wall must be grouted and pipe caulked from outside as described above.

END OF SECTION

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SECTION 260534 - BOXES

PART 1 - GENERAL

1.1 OUTLET BOXES

A. Sheet Steel Type:

1. Sheet steel outlet boxes shall be galvanized and complete with galvanized steel cover and/or extension collar as required.
2. Switch, receptacle and wall outlet concealed boxes shall be a nominal 4" square, 1 1/2" or 2 1/8" deep as required with a raised cover, unless otherwise indicated on the drawing or in narrow glass partition mullions.
 - a. Provide 3/8" fixture stud as required. When installed in columns, they shall be deep enough to allow conduits to be installed in back of the firestopping. Ganged outlet boxes shall be of sufficient length to suit conditions.
3. Lighting fixtures boxes shall be 4" octagon with removable backplate.
4. Junction outlets shall be the same as above outlets but without stud, and shall be furnished with covers to suit each condition and as directed.

B. Cast Type:

1. Cast outlet boxes shall be galvanized cast iron when used with steel conduit, type FS or FD, with threaded hubs and matching gasketed covers as required without overlapping edges or corners.
2. Use cast brass boxes outdoors, in fresh air intakes and other wet and damper locations when installed exposed and flush in floors. Equip all boxes in these locations with NEMA 4 covers.

1.2 PULL, TAP AND CABLE SUPPORT BOXES

A. Construction

1. Pull, tap and cable support boxes shall be built of steel with removable covers secured by brass machine screws, and shall be stiffened with heavy strips of channels and angles. Boxes must in all ways be satisfactory to the Commissioner and subject to his acceptance. All such boxes must be accessible and shall be built only from detailed shop drawings returned from the Commissioner with no exceptions taken. Boxes shall conform to UL Standards.

2. Furnish and install on the corner of each pull, tap and cable support box an identification nameplate. Each nameplate shall be made up of 1/8" thick black phenolic with white engraved letters. Nameplates shall be secured to box and all cables passing through.
- B. Finish:
1. All sheet steel support boxes, tap boxes and pull boxes shall be given one coat of zinc chromate primer and two coats of gray enamel, both inside and out. All finishing painting of exposed work will be done under another contract.
- C. Grounding:
1. All pull, tap and cable support boxes shall have bonding locknuts on the inside as described under this section.
- D. Size:
1. Where size of box is not indicated, size as per Electrical Codes to permit pulling, racking and splicing of the cables.

PART 2 – PRODUCTS

2.1 ACCEPTABLE MATERIALS & MANUFACTURER

- A. Floor Boxes:
- Harvey Hubbell, Inc.
Steel City Electric Co.
Thomas & Betts, Inc.
- B. Outlet Box Hangers
- Appleton Electric Co.
Steel City Electric Co.
Thomas & Betts Co., Inc.
- C. Outlet Boxes - Cast Type
- Appleton Electric Co.
Steel City Electric Co.
Thomas & Betts Co., Inc.
- D. Outlet Boxes - Sheet Steel Types
- Appleton Electric Co.

Arrow Conduit & Fittings Corp.
 Raco
 Steel City Electric Co.
 O-Z/Gedney Co.
 Steel City Electric Co.
 Thomas & Betts Co.
 Unistrut Corp.

PART 3 - EXECUTION

3.1 OUTLET BOXES INSTALLATION

- A. Obtain exact location of outlets from the drawings of interior details and finishes. Refer any condition that would place an outlet box in an unsuitable location to the Commissioner. After special interior finishes (viz. wood, paneling, etc.) are erected, make necessary adjustment in the work so that outlets will be centered properly.
- B. In centering outlets, allow for overhead pipes, ducts, etc., and for variations in arrangement and thickness of fireproofing and plastering, also for window trims, panel, etc., and any inaccuracy resulting from failure to do this must be corrected without expense to the City of New York.
- C. Mount outlet boxes for similar equipment in the same or similar areas at uniform heights. Where mounting heights are not indicated, locate outlets as required for the equipment connected thereto. Unless directed otherwise by the Commissioner or by the drawings, the mounting heights to centerline of outlet boxes shall be as follows:

Devices	Above Finished Floor
Wall Switches	4'-0"
Wall Receptacles	1'-3"
Wall Fixtures in Stairways	8'-0"

* Where ceiling height is 8'-6" or higher and 7'-6" where there is an 8'-0" ceiling height.

- D. Install outlets in accessible locations. Where metal wainscot or finish is removable, install outlets to permit removal of metal wainscot or finish without removing the outlet box.
- E. Fasten outlet boxes securely. Use hangers or other acceptable fasteners to support outlet boxes.
- F. Set outlet boxes for surface and pendant lighting fixtures flush with finished surfaces. Hangers for these outlet boxes in hung ceilings shall consist of two parallel galvanized iron bars attached through openings in the sides of the outlet

box and secured to the cross framing channels in an acceptable manner. In concealed spline ceilings, an acceptable vertical box support clamped to the black iron channels may be used.

- G. All exposed outlet boxes shall be attached to permanent inserts or other acceptable fasteners. Where this is not possible, the concrete shall be drilled, metal expansion sleeves shall be installed and boxes shall be secured using machine screws.
- H. Use multi gang box where more than one device is mounted together. Do not use sectional box.
- I. Use single gang box with plaster ring for single device outlets.
- J. Use cast outlet box in wet locations.
- K. Large Pull Boxes: Boxes larger than 100 cubic inches in volume or 12 inches in any dimension.
 - 1. Interior Dry Locations: Use hinged enclosure.
 - 2. Other Locations: Use surface-mounted cast metal box.
- L. Pull, Tap and Cable Support Boxes
 - 1. Provide pull, tap and cable support boxes where indicated on the drawings, required by "Codes" and as required to facilitate installing of wire and cables.
- M. Interface With Other Products
 - 1. Coordinate installation of outlet box for products furnished under Section 230500 Mechanical and 220500 Plumbing.
 - 2. Position outlet boxes to locate luminaires as shown on reflected ceiling plan.
- N. Adjusting
 - 1. Adjust flush-mounting outlets to make front flush with finished wall material.
 - 2. Install knockout closure in unused box opening.

END OF SECTION

SECTION 260553 - IDENTIFICATION FOR ELECTRICAL SYSTEMS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Identification for conductors.
 - 2. Warning labels and signs.
 - 3. Instruction signs.
 - 4. Equipment identification labels.
 - 5. 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.
- C. Coordinate installation of identifying devices with location of access panels and doors.
- D. Install identifying devices before installing acoustical ceilings and similar concealment.

PART 2 - PRODUCTS

2.1 CONDUCTOR IDENTIFICATION MATERIALS

- A. Color-Coding Conductor Tape: Colored, self-adhesive vinyl tape not less than 3 mils (0.08 mm) thick by 1 to 2 inches (25 to 50 mm) wide.
- B. 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.
- C. Snap-Around Labels: Slit, pretensioned, flexible, preprinted, color-coded acrylic sleeve, with diameter sized to suit diameter of raceway or cable it identifies and to stay in place by gripping action.
- D. Snap-Around, Color-Coding Bands: Slit, pretensioned, flexible, solid-colored acrylic sleeve, 2 inches (50 mm) long, with diameter sized to suit diameter of raceway or cable it identifies and to stay in place by gripping action.
- E. Marker Tapes: Vinyl or vinyl-cloth, self-adhesive wraparound type, with circuit identification legend machine printed by thermal transfer or equivalent process.
- F. Write-On Tags: Polyester tag, 0.010 inch (0.25 mm) 0.015 inch (0.38 mm) 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.

2.2 FLOOR MARKING TAPE

- A. 2-inch- (50-mm-) wide, 5-mil (0.125-mm) pressure-sensitive vinyl tape, with black and white stripes and clear vinyl overlay.

2.3 WARNING LABELS AND SIGNS

- A. Comply with NFPA 70 and 29 CFR 1910.145.
- B. Self-Adhesive Warning Labels: Factory-printed, multicolor, pressure-sensitive adhesive labels, configured for display on front cover, door, or other access to equipment unless otherwise indicated.
- C. Baked-Enamel Warning Signs:
 - 1. Preprinted aluminum signs, punched or drilled for fasteners, with colors, legend, and size required for application.
 - 2. 1/4-inch (6.4-mm) grommets in corners for mounting.
 - 3. Nominal size, 7 by 10 inches (180 by 250 mm).
- D. Metal-Backed, Butyrate Warning Signs:
 - 1. Weather-resistant, nonfading, preprinted, cellulose-acetate butyrate signs with 0.0396-inch (1-mm) galvanized-steel backing; and with colors, legend, and size required for application.
 - 2. 1/4-inch (6.4-mm) grommets in corners for mounting.
 - 3. Nominal size, 10 by 14 inches (250 by 360 mm).
- E. Warning label and sign shall include, but are not limited to, the following legends:
 - 1. Multiple Power Source Warning: "DANGER - ELECTRICAL SHOCK HAZARD - EQUIPMENT HAS MULTIPLE POWER SOURCES."
 - 2. Workspace Clearance Warning: "WARNING - OSHA REGULATION - AREA IN FRONT OF ELECTRICAL EQUIPMENT MUST BE KEPT CLEAR FOR 36 INCHES (915 MM)."

2.4 INSTRUCTION SIGNS

- A. Engraved, laminated acrylic or melamine plastic, minimum 1/16 inch (1.6 mm) thick for signs up to 20 sq. inches (129 sq. cm) and 1/8 inch (3.2 mm) thick for larger sizes.
 - 1. Engraved legend with black letters on white face .
 - 2. Punched or drilled for mechanical fasteners.
 - 3. Framed with mitered acrylic molding and arranged for attachment at applicable equipment.

- B. Adhesive Film Label: Machine printed, in black, by thermal transfer or equivalent process. Minimum letter height shall be 3/8 inch (10 mm).
- C. Adhesive Film Label with Clear Protective Overlay: Machine printed, in black, by thermal transfer or equivalent process. Minimum letter height shall be 3/8 inch (10 mm). Overlay shall provide a weatherproof and UV-resistant seal for label.

2.5 EQUIPMENT IDENTIFICATION LABELS

- A. Adhesive Film Label: Machine printed, in black, by thermal transfer or equivalent process. Minimum letter height shall be 3/8 inch (10 mm).
- B. Adhesive Film Label with Clear Protective Overlay: Machine printed, in black, by thermal transfer or equivalent process. Minimum letter height shall be 3/8 inch (10 mm). Overlay shall provide a weatherproof and UV-resistant seal for label.
- C. Self-Adhesive, Engraved, Laminated Acrylic or Melamine Label: Adhesive backed, with white letters on a dark-gray background. Minimum letter height shall be 3/8 inch (10 mm).
- D. Engraved, Laminated Acrylic or Melamine Label: Punched or drilled for screw mounting. White letters on a dark-gray background. Minimum letter height shall be 3/8 inch (10 mm).
- E. Stenciled Legend: In nonfading, waterproof, black ink or paint. Minimum letter height shall be 1 inch (25 mm).

2.6 CABLE TIES

- A. General-Purpose Cable Ties: Fungus inert, self extinguishing, one piece, self locking, Type 6/6 nylon.
 - 1. Minimum Width: 3/16 inch (5 mm).
 - 2. Tensile Strength at 73 deg F (23 deg C), According to ASTM D 638: 12,000 psi (82.7 MPa).
 - 3. Temperature Range: Minus 40 to plus 185 deg F (Minus 40 to plus 85 deg C).
 - 4. Color: Black except where used for color-coding.

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. Self-Adhesive Identification Products: Clean surfaces before application, using materials and methods recommended by manufacturer of identification device.
- E. Attach signs and plastic labels that are not self-adhesive type with mechanical fasteners appropriate to the location and substrate.
- F. System Identification Color-Coding Bands for Raceways and Cables: Each color-coding band shall completely encircle cable or conduit. Place adjacent bands of two-color markings in contact, side by side. Locate bands at changes in direction, at penetrations of walls and floors, at 50-foot (15-m) maximum intervals in straight runs, and at 25-foot (7.6-m) maximum intervals in congested areas.
- G. Aluminum Wraparound Marker Labels and Metal Tags: Secure tight to surface of conductor or cable at a location with high visibility and accessibility.
- H. Cable Ties: For attaching tags. Use general-purpose type, except as listed below:
 - 1. Outdoors: UV-stabilized nylon.
 - 2. In Spaces Handling Environmental Air: Plenum rated.
- I. Underground-Line Warning Tape: During backfilling of trenches install continuous underground-line warning tape directly above line at 6 to 8 inches (150 to 200 mm) below finished grade. Use multiple tapes where width of multiple lines installed in a common trench or concrete envelope exceeds 16 inches (400 mm) overall.

3.2 IDENTIFICATION SCHEDULE

- A. Accessible Raceways and Metal-Clad Cables, 600 V or Less, for Service, Feeder, and Branch Circuits More Than 30 A, and 120 V to ground: Identify with self-adhesive vinyl label. Install labels at 30-foot (10-m) maximum intervals.
- B. Accessible Raceways and Cables within Buildings: Identify the covers of each junction and pull box of the following systems with self-adhesive vinyl labels with the wiring system legend and system voltage. System legends shall be as follows:
 - 1. Power
- C. Power-Circuit Conductor Identification, 600 V or Less: For conductors in vaults, pull and junction boxes, manholes, and handholes, use color-coding conductor tape to identify the phase.
 - 1. Color-Coding for Phase Identification, 600 V or Less: Use colors listed below for ungrounded service feeder and branch-circuit conductors.

- a. Color shall be factory applied or field applied for sizes larger than No. 8 AWG.
 - b. Colors for 208/120-V Circuits:
 - 1) Phase A: Black.
 - 2) Phase B: Red.
 - 3) Phase C: Blue.
 - c. Field-Applied, Color-Coding Conductor Tape: Apply in half-lapped turns for a minimum distance of 6 inches (150 mm) from terminal points and in boxes where splices or taps are made. Apply last two turns of tape with no tension to prevent possible unwinding. Locate bands to avoid obscuring factory cable markings.
- D. Install instructional sign including the color-code for grounded and ungrounded conductors using adhesive-film-type labels.
- E. Conductors to Be Extended in the Future: Attach write-on tags/ marker tape to conductors and list source.
- F. Auxiliary Electrical Systems Conductor Identification: Identify field-installed alarm, control, and signal connections.
1. Identify conductors, cables, and terminals in enclosures and at junctions, terminals, and pull points. Identify by system and circuit designation.
 2. Use system of marker tape designations that is uniform and consistent with system used by manufacturer for factory-installed connections.
 3. Coordinate identification with Project Drawings, manufacturer's wiring diagrams, and the Operation and Maintenance Manual.
- G. Workspace Indication: Install floor marking tape to show working clearances in the direction of access to live parts. Workspace shall be as required by NFPA 70 and 29 CFR 1926.403 unless otherwise indicated. Do not install at flush-mounted panelboards and similar equipment in finished spaces.
- H. Warning Labels for Indoor Cabinets, Boxes, and Enclosures for Power and Lighting: Self-adhesive warning labels.
1. Comply with 29 CFR 1910.145.
 2. Identify system voltage with black letters on an orange background.
 3. Apply to exterior of door, cover, or other access.
 4. For equipment with multiple power or control sources, apply to door or cover of equipment including, but not limited to, the following:
 - a. Power transfer switches.
 - b. Controls with external control power connections.

- I. Operating Instruction Signs: Install instruction signs to facilitate proper operation and maintenance of electrical systems and items to which they connect. Install instruction signs with approved legend where instructions are needed for system or equipment operation.
- J. Emergency Operating Instruction Signs: Install instruction signs with white legend on a red background with minimum 3/8-inch- (10-mm-) high letters for emergency instructions at equipment used for power transfer.
- K. Equipment Identification Labels: On each unit of equipment, install unique designation label that is consistent with wiring diagrams, schedules, and the Operation and Maintenance Manual. Apply labels to disconnect switches and protection equipment, central or master units, control panels, control stations, terminal cabinets, and racks of each system. Systems include power, lighting and control systems unless equipment is provided with its own identification.
 1. Labeling Instructions:
 - a. Indoor Equipment: Self-adhesive, engraved, laminated acrylic or melamine label. Unless otherwise indicated, provide a single line of text with 1/2-inch- (13-mm-) high letters on 1-1/2-inch- (38-mm-) high label; where two lines of text are required, use labels 2 inches (50 mm) high.
 - b. Outdoor Equipment: Engraved, laminated acrylic or melamine label - Stenciled legend 4 inches (100 mm) high.
 - c. Elevated Components: Increase sizes of labels and letters to those appropriate for viewing from the floor.
 - d. Unless provided with self-adhesive means of attachment, fasten labels with appropriate mechanical fasteners that do not change the NEMA or NRTL rating of the enclosure.
 2. Equipment to Be Labeled:
 - a. Panelboards: Typewritten directory of circuits in the location provided by panelboard manufacturer. Panelboard identification shall be self-adhesive, engraved, laminated acrylic or melamine label.
 - b. Enclosures and electrical cabinets.
 - c. Access doors and panels for concealed electrical items.
 - d. Enclosed switches.
 - e. Enclosed circuit breakers.
 - f. Enclosed controllers.

END OF SECTION 260553

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SECTION 262413 - PANELBOARDS

PART 1 - GENERAL

1.1 SCOPE OF WORK

- A. The work under this Section shall consist of furnishing all labor, material, and equipment and appliances necessary and required to furnish and install a distribution system complete with panelboards and safety switches as required by the drawings and as specified herein.

PART 2 - PRODUCTS

2.1 SAFETY SWITCHES (SINGLE THROW)

- A. NEMA 1 & 3R

Cutler-Hammer Inc.'s, General Electric Co. Square D CO. or Siemens, General Purpose type, having:

1. Fuses, or unfused as indicated on drawings.
2. Fused switches equipped with fuseholders to accept only the fuses specified in Section 262413 - "Panelboards."
3. NEMA 1 enclosure unless otherwise indicated on drawing.
4. 240V rating 120V, 208V, or 240V circuits.
5. Solid neutral bus when neutral conductor is included with circuit.
6. Ground bus when equipment grounding conductor is included with circuit.
7. Current rating and number of poles as indicated on drawings.

2.2 NAMEPLATES

- A. General

Precision engrave letters and numbers with uniform margins, character size minimum 3/16" high.

1. Phenolic: Two color laminated engraves stock, 1/16" minimum thickness, machine engraved to expose inner core color (white).
2. Aluminum: Standard aluminum alloy plate stock, minimum .032" thick, engraved areas enamel filled or background enameled with natural aluminum engraved characters.
3. Materials for Outdoor Applications: As recommended by nameplate manufacturer to suit environmental conditions.

2.3 PANELBOARDS

A. General

1. Each panelboard shall consist of automatic short circuit and overcurrent protective devices assembled into a single interior unit mounted in a sheet metal cabinet with trim and door.
2. Construction of panelboards shall in all ways be satisfactory to the Commissioner, shall bear the U.L. label, and be fabricated according to UL Standards #67 and 50, and NEMA Standard PB-1.
3. Shop drawings shall show physical arrangements and details of each type of panel and be specifically related to the panelboards being furnished. Shop drawings shall identify the panelboards by the nomenclature used on the drawings.
4. All panelboards shall be supplied by the same manufacturer. Where there are fuses or breakers in the mains or outside of the cabinet protecting the panels, these shall be a U.L. 489 tested combination; submit a certification that the combination will safely clear the fault currents listed on the drawings.

B. Cabinets

1. Cabinets shall be the general purpose type unless indicated otherwise, and be complete with trim, doors and directories.
2. Cabinets shall be surface and/or flush types as shown on the drawings.
3. Cabinets (boxes) shall be made of sheet steel or aluminum "bent up" or welded together. Steel boxes shall be galvanized or primed.
4. Boxes shall be of sufficient size to allow a gutter at least 4" in width entirely surrounding each section of board. Where feeders are tapped in or go through panelboard cabinets to serve other panelboards, the minimum size of that particular gutter only shall be increased to at least 8" and shall be acceptable for the purpose.

C. Trims and Doors

1. Furnish and install doors and trims or gutter covers for all panelboard boxes. Where fused breakers are used, door opening shall allow removal of fuses without removing trim.
2. Trims shall be attached directly to box by clamps attached through holes in trim and supports on box frame using trim clamps or other acceptable method. Doors shall be set flush relative to trim. Angle iron clips shall be provided on inside of trim to facilitate positioning.
3. Steel trim and doors shall be primed and all trims and doors shall be furnished with a coat of gray enamel.
4. Directories shall be typed on white bond paper with a description of each circuit and its load in watts.
5. Locks
 - a. All locks shall be of the cylinder tumbler type unless otherwise specified. Panelboard and interconnecting box locks shall be as follows or as authorized:
 - i. Cabinets with doors 30" high or larger.
 - ii. Cabinets with doors less than 30" high.
 - b. All locks shall take the same key. Furnish two keys with each lock, maximum number of keys shall be 12.
 - c. Key locks shall be keyed alike.

D. Nameplates

Equip all panelboards with black laminated phenolic nameplates etched to show panel designation in 1/2" white letters and main frame and trip or fuse size and type, system voltage, feeder size and original and tap size where applicable, all in 1/8" high letters. Mount nameplates on outside of trim with two screws.

E. Interior of Panelboards

1. Assemble branch circuit units on electro-silver or tin plated or as acceptable copper buses on rigid back pan or frame arranged to permit removal of any unit without disturbing adjacent units with following bus characteristics:
 - a. 98% pure electrolytic copper.

- b. 55 degrees C temperature rise, when plated.
 - c. 50 degrees C temperature rise of unplated bus.
 - d. Maximum current density: 1000 amperes per square inch.
 - e. Contact surface area: 200 amperes per square inch.
 - f. Minimum bus size: Same capacity as feeders or main protective device, but not less than 1/2" x 1/16".
 - g. Minimum plating thickness: 0.0002" for silver, 0.0001" for tin.
 - h. Aluminum bus will not be acceptable.
- 2. Number each circuit connection in panels.
 - 3. Provide appropriate bus work complete with bus connecting straps and with blank plates for future circuits marked "SPACES".
 - 4. Use screws and bolts with lock washers for all connections.
 - 5. Arrange buses so that any three adjacent branches (e.g., 1, 3, 5) are connected to Phase A, B and C respectively with the same phase sequence maintained throughout.
 - 6. Furnish separate lugs for each conductor connecting to panel. Furnish lugs to match the bus bars. Place heavy chamfered washers under all nuts. Arrange lugs for conductors 2/0 and above in size to prevent swivelling either by properly designed stops with single bolt or by the use of two bolt lugs.
 - 7. Double lugging or top and bottom lugs for through feeds will not be permitted.

2.4 LIGHTING AND APPLIANCE PANELBOARDS

A. Description

- 1. Install lighting panelboards as shown on the drawings. Voltages, number of circuits, mounting and other data for each panelboard is given in tables on the drawings.
- 2. For each branch circuit connection called for in the schedules, provide a terminal connection in the neutral, as well as the proper number and type or overcurrent devices.
- 3. Where more than 42 overcurrent devices are indicated on the drawings for one panelboard, provide a multi-section panel with approximately an

equal amount of overcurrent devices in each section. Where the schedule also indicates a main protective and disconnect unit, provide a main protective and disconnect unit, provide a main protective and disconnect unit in each section.

4. It is not intended that the circuit numbering shown on the drawings be followed. On each panelboard, circuits shall be so connected that the loads on each phase shall balance within 10% with all lamps burning and with equipment in operation.

B. Branch Circuit Devices:

1. Each branch shall contain a bolt-on circuit breaker of interrupting capacity, type, voltage and number of poles as shown on the drawings. Circuit breakers shall be quick-make, quick-break, thermal-magnetic, molded case type with each pole containing thermal inverse time delay and magnetic overcurrent trip elements; tied handles will not be acceptable. Where indicated on the drawings that circuit breakers will provide the principal means of switching, breakers shall be marked "SWD". Branch circuit breakers shall be General Electric - "B-Line" Series for 120/240 volts as acceptable.
2. Where shown on the drawings, breakers also shall contain a solid state ground fault interrupter circuit insulated and isolated from the breaker mechanism. Breaker shall trip on ground faults exceeding 5 milliamperes. Tripping time shall be not less than 25 milliseconds at 0.25 ampere ground fault.

C. Mains

1. Where shown on the drawings, panels shall contain a circuit breakers in the mains. Breaker shall be thermal-magnetic, molded case with each pole containing a thermal inverse time delay and a magnetic instantaneous trip device. Breaker shall be General Electric - "Thermal Magnetic Trip Services", or as acceptable.

2.5 ACCEPTABLE MATERIALS & MANUFACTURERS

A. Panelboards

Atlas Switch Co.
Eaton/Cutler Hammer
Electric Products Co.
General Electric Co.
Metropolitan Electric Mfg. Co.
Siemens - I.T.E.
Square D Co.
Westinghouse Electric Corp.

B. Circuit Breakers - Molded Case

General Electric Co.
Siemens - I.T.E.
Square D Co.
Westinghouse Electric Corp.

2.6 OVERCURRENT PROTECTIVE DEVICES CIRCUIT BREAKERS AND FUSES

A. Circuit breakers shall be of either the all magnetic trip type or of the thermal (on overload) - magnetic (on short circuit) trip type and shall conform to the following Specifications:

1. Plug-in type circuit breakers will not be acceptable.
2. Breakers shall be equipped with arc chutes or other approved suitable means of quenching arcs.
3. Breakers shall have a quick-break operating mechanism on automatic operation.
4. Handles of breakers shall be "trip free".
5. Handles of breakers shall plainly indicate whether breaker is in "ON", "OFF" or tripped position.
6. Breakers shall be designed to carry 100% of trip rating continuously; to have inverse time delay tripping above 125% of trip rating; and to trip instantaneously at 1000% of trip rating.
7. Multi-pole breakers shall have barriers between poles.
8. Multi-pole breakers shall have a separate tripping element for each pole. Each tripping element shall open all poles. Multi-pole breakers shall have one handle controlling all poles.
9. Breakers of 225-ampere trip rating or less shall have non-tamperable, permanently set tripping elements enclosed and sealed in units of approved molded composition.
10. Single pole breakers shall be rated for not less than 120 volts, A.C., unless otherwise noted on drawings; multi-pole breakers shall be rated for not less than 250 volts A.C.
11. All breakers shall be manufactured in accordance with standards of the National Electrical Manufacturer Association and shall bear Underwriters Laboratories label.

12. Circuit breakers shall have not less than 15-ampere trip ratings for lighting or appliance circuits, unless otherwise indicated on drawing or required for the circuit protected.
13. Circuit breakers protecting 120/208 volt, single phase, 3-wire circuits or 2-wire 208 volt circuits shall be of the approved two-pole type.
14. Circuit breakers protecting three phase circuits shall be of the three-pole type.
15. Where spaces for future breakers are required, copper connections for mounting of future breakers shall be provided.
16. Where two or three pole breakers are called for in lighting panels quicklag type the two or three pole breaker shall be of the quicklag common trip type to maintain required depth for flush mounting in nominal 4" walls.
17. For circuits to lighting fixtures, to heaters (120-volt circuits), to single phase 120-volt motors and to receptacles provide Siemens, "Quicklag" or an approved equal by the I.T.E. Circuit Breaker Co., Murray Mfg. Co., or General Electric.
18. For 208-volt circuits to 208- volt heater equipment or 208-volt single phase motors provide two-pole breaker with curve time 1; Siemens, or an approved equal by the I.T.E. Circuit Breaker Co., or General Electric.
19. For 3-phase, 208 volt circuits to 3-phase heater equipment or 3-phase motors provide, three-pole breaker with time curve 1; Siemens, or an approved equal by the I.T.E. Circuit Breaker Co., or General Electric.

B. Circuit Breakers

1. Circuit breakers shall be mounted in standard panelboard type construction in accordance with rigid reinforced vertical assembly to hold circuit breakers and necessary insulating bases to support bus structure and prevent flash over to ground. Entire assembly shall be securely fastened to switchboard structure. Each panel shall employ thermal magnetic circuit breakers the approved equal of Siemens AB, ITE type ET, or General Electric Co. Frame sizes of circuit breakers shall conform to the following:

Trip Ratings-Amps	No. of Poles	Frame Size
15-70	1	100 AMP-frame the approved equal of Siemens E or EB frame.
15-100	2 & 3	100 AMP-frame the approved equal

101-225

2 & 3

of Siemens FB frame (18,000 AMP
I.C.)225 AMP-frame the approved equal
of Siemens JA frame (22,000 AMP
I.C.)

2. Fuse

- a. Fuse holders for Distribution equipment and Panelboards (except as otherwise specified for service switches) for 30 to 600 amperes 250 volts shall be equipped with N.B.C type Cartridge fuses of type and approved interchangeable stud mounted type. All fuses including spares shall have a minimum interrupting rating of 200,000 R.M.S. amperes the equal of Bussman or Chase Shawmut.
- b. See the Drawings for size and type of fuses required for the various pieces of equipment.

3. Spare Fuses

Furnish and deliver the following spare fuses:

- a. One set of three for each Service Switch.
- b. Three (3) fuses of each type and size for all other fuses.

PART 3 - EXECUTION

3.1 SAFETY SWITCHES INSTALLATION

- A. Install switches so that the maximum height above the floor to the center of the operating handle does not exceed 6'-6". When shown as wall mounted switches shall be mounted on a free standing strut system anchored to the floor, ceiling or both.
- B. Identify each safety switch, indicating purpose or load served:
 - 1. NEMA 1 Enclosures: Rivet or bolt nameplate to the cover.
 - 2. NEMA 3R Enclosures: Attach nameplate to the cover using adhesive specifically designed for the purpose, or mount nameplate on wall or

other conspicuous location adjacent to switch. Do not penetrate enclosure with fasteners.

3.2 PANELBOARD INSTALLATION

- A. Mount surface mounted panels at least 1" off the wall. Supports shall not be horizontal and shall not block the vertical flow of air in back of the panelboards.
- B. Mount top of panelboard 7'-0" above finished floor.
- C. Do not exceed 6'-6" above finished floor to any operating handle.
- D. Close all unused cabinet openings.
- E. Install cabinet interiors after all conduit connections are completed.
- F. Install trims in final position prior to finish painting.
- G. Grounding of Panelboards
 - 1. Where indicated specifically on the drawings or where ground conductors are run into panelboards from the conduit, cable or from grounding bushings, then each such panelboard shall contain a grounding bus connected to the cabinet in an acceptable manner. Refer to Section 260526 – "Grounding and Bonding for Electrical Systems" and Section 260533 – "Raceway and Boxes for Electrical Systems."
 - 2. Painting
 - a. Each cabinet shall be delivered to building equipped with a priming coat of paint on all surfaces of box, trim and door.
 - b. In unfinished areas of the building, exposed surfaces of box, trim and doors shall be painted with two coats of paint, color as selected. Elsewhere in the building, exposed surfaces of door and trim will be painted to match surroundings.
 - c. Note: Trims and doors MUST be completely installed by the time painting of the building begins.

END OF SECTION

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SECTION 262726 - WIRING DEVICES

PART 1 - GENERAL

1.1 WIRING DEVICES

- A. All wiring devices shall be specification grade, composition base and conform to NEMA Standard WD-1 for Heavy Duty Switches and Receptacles, and WD-5 where applicable.
- B. Provide a matching cap (plug) for each special receptacle where indicated on the drawings to a maximum of 12 of each type.
- C. Hardware
 - 1. All switch plates, receptacle plates, escutcheons, signal outlet plates, blank plates, exposed outlet box covers and all other similar material shall conform to NEMA WD-1, and be 0.040" thick clear anodized aluminum, US #28 dull finished. Plates shall be manufactured by Sierra or same manufacturer as wiring devices.
 - 2. For receptacles mounted in exterior or damp locations, receptacles shall have weatherproof horizontal lifting and gasketed covers, Pass & Seymour No. 4510 or as acceptable.
 - 3. For receptacles and switches mounted in exterior locations, behind a weatherproof lockable hinged lift-up door, with cam lock, Pass & Seymour #4600 series or as acceptable.

PART 2 - PRODUCTS

2.1 RECEPTACLES

- A. Receptacle type and manufacturers shall be as follows or as acceptable:

<u>Type</u>	<u>No. Pole</u>		<u>Amp</u>	<u>Volt</u>	<u>and Wires</u>	<u>NEMA No.</u>	<u>Mfgr. & Cat. No.</u>
Duplex Receptacle	20	125			2P, 3W	5-20R	Leviton
Duplex Receptacle	20	250			2P, 3W	6-20R	Leviton
Ground Fault	20	125			2P, 3W	5-20R	Leviton

B. Receptacle

1. When installed outdoors and in damp and wet locations, furnish with weatherproof cover. For all locations, provide deep box as required to permit installation of device without the use of an adapter collar.

C. Refer to drawings for other types of special receptacles.

- D. Provide an arc fault circuit interrupter (AFCI) duplex 20A-120V receptacle similar or equal to Leviton (UL-AWBE) type.

2.2 OCCUPANCY SENSORS

- A. The occupancy sensors shall be rated at 20A-120volts A.C. and totally enclosed. Provide the following catalog numbers or as acceptable:

1. Wall mounted shall be 1800VA @ 120V similar or equal to CAT.#0DS15-1D with the maximum setting for 30 minutes by Leviton.
2. Ceiling mounted shall be 1000VA @ 120V similar or equal to Cat.#0DC0S-11W with the maximum setting for 30 minutes by Leviton.
3. Wall mounted long range corridor type occupancy sensor similar or equal to CAT. #0DWHB-10W with the maximum setting for 30 minutes by Leviton.

2.3 SWITCHES

- A. Switches shall be rated at 20 amperes at 120-277 volts a.c., totally enclosed quiet type; and shall be the following catalog numbers or as acceptable:

<u>Type</u>	<u>Manufacturer & Cat. No.</u>
Single pole	- Pass & Seymour No. 20AC1
Two pole	- Pass & Seymour No. 20AC2
Three-way	- Pass & Seymour No. 20AC3

Furnish keys with key operated switches.

- B. Momentary contact switch shall be 3-position, 2-circuit type with spring return to center OFF position rated at 20 amperes at 120-277 volts a.c. Switch shall be Hubbell #1557 or as acceptable.
- C. Pilot lights shall be General Electric, or as acceptable, #GE-4218-0 or #GE-4219-0 as required, with red lens and neon lamp.

2.4 ACCEPTABLE MATERIALS & MANUFACTURERS

A. Wiring Devices, Switches & Pilot Lights

Bryant Electric Co.
Crouse-Hinds Co.
General Electric Co.
Harvey Hubbell, Inc.
Pass & Seymour, Inc.
Sierra (Hardware Only)
Slater ("Medallist" Line Only)
Arrow Hart & Hegeman Co.
Leviton Mfg. Co., Inc.

B. Poke-Through Fittings

1. Manufacturers:

Raceway Components, Inc.
Pass & Seymour
Hubbell

2. Description: Assembly comprising service fitting, poke-through component, firestops and smoke barriers, and junction box for conduit termination.

3. Fire Rating: 3 hours

4. Service Fittings:

- a. Type: Flush
- b. Housing: Satin aluminum
- c. Device Plate: Stainless steel
- d. Configuration: Duplex

PART 3 - EXECUTION

3.1 WIRING DEVICES INSTALLATION

A. General

- 1. Verify conditions under provisions of DDC General Conditions.
- 2. Verify outlet boxes are installed at proper height.
- 3. Verify wall openings are neatly cut and will be completely covered by wall plates.

4. Verify branch circuit wiring installation is completed, tested, and ready for connection to wiring devices.
5. Verify openings in access floor are in proper locations.
6. At homework counter, the telephone jack and receptacle shall be mounted above counter (3'-8").

B. Preparation

1. Provide extension rings to bring outlet boxes flush with finished surface.
2. Clean debris from outlet boxes.

C. Installation

1. Install products in accordance with manufacturer's instructions.
2. Install devices plumb and level.
3. Install switches with OFF position down
4. Install receptacles with grounding pole on top.
5. Connect wiring device grounding terminal to outlet box with bonding jumper.
6. In finished areas switch/receptacle and cover plate to be same color; color to be selected by Commissioner.
7. Connect wiring devices by wrapping conductor around screw terminal.
8. Install galvanized steel plates on outlet boxes and junction boxes in unfinished areas, above accessible ceilings, and on surface mounted outlets.
9. Install protective ring on active flush cover service fittings.

3.2 INTERFACE WITH OTHER PRODUCTS

- A. Coordinate locations of outlet boxes provided under Section 260534 – "Boxes" to obtain mounting heights specified and indicated on drawings or in specifications.

3.3 SWITCHES

- A. Locate switches near doors at the strike side of doors as finally hung.

- B. Switch the ungrounded wires of circuits.
- C. Mount switches with the long dimension vertical and the operating handle in the upward position when in the ON position.
- D. Install telephone jack for wall telephone 48 inches above finished floor.
- E. Field Quality Control
 - 1. Inspect each wiring device for defects.
 - 2. Operate each wall switch with circuit energized and verify proper operation.
 - 3. Verify that each receptacle device is energized.
 - 4. Test each receptacle device for proper polarity.
 - 5. Test each GFCI receptacle device for proper operation.
 - 6. Verify that each telephone jack is properly connected and circuit is operational.
- F. Adjusting
 - . Adjust devices and wall plates to be flush and level.
- G. Spares

This contractor shall provide three (3) sets of each type of receptacles, switches and cover plates for wiring devices.

END OF SECTION

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SECTION 265100 - INTERIOR LIGHTING

PART 1 - GENERAL

1.1 SUMMARY

- A. Lighting fixtures shall comply with or exceed the latest requirements of the New York City or National Electrical Codes, and shall bear the label of the Underwriters' Laboratories Inc.
- B. Provide lighting fixtures complete with auxiliaries required for the proper, safe and distortion-free installation in the various ceiling construction in which they appear. Determine ceiling type from the Architectural drawings.
- C. Each lighting fixture shall be packaged with complete instructions and illustrations showing how to install.
- D. See drawings for schedule of fixtures.

1.2 WARRANTY

- A. Special Manufacturer's Warranty: Provide manufacturer's standard form in which manufacturer agrees to repair or replace products that fail in materials or workmanship during the following period after substantial completion:
 - 1. Warranty Period: Fifteen (15) years from substantial completion.

PART 2 - PRODUCTS

2.1 CONSTRUCTION AND MATERIALS

- A. Fabricate fixture enclosure with a minimum of #22 gauge thick cold rolled sheet steel. Sheet steel of less than #22 gauge may be used subject to review and acceptance of sample. Enclosures may be constructed of other metals, provided they are equivalent in mechanical strength and acceptable for the purpose. Fabricate lighting fixtures to be finished in vitreous porcelain enamel from a minimum of #22 gauge enameling steel, unless otherwise specified.
- B. Precision form exposed trims, side rails and framed doors with cold rolled sheet steel of not less than #20 gauge (0.0359 inch) thick. Where specified as aluminum, use extruded aluminum, alloy #6063T with a wall thickness of not less than 0.060 inch.

- C. Weld, braze, rivet or bolt seams and joints to provide ample strength. Fit seams, miters and joints in a neat and workmanlike manner.
- D. Remove sharp corners and/or edges of metal which can cause injury to wiring and to personnel during installation of servicing of fixtures.
- E. Lighting fixtures shall be free of light leaks.
- F. Provide lampholders for the proper lamps in lighting fixtures, U.L. listed, of a type designed and suitable for the purpose, and bearing the manufacturer's name or trademark, type, number, and rating on each item.
- G. Sleeve those portions of through bolts which pass through wiring enclosures.
- H. Provide concealed hinges and latches on frames, lens door assemblies, and/or trim of lighting fixtures unless specified otherwise.
- I. Construct exterior lighting fixtures of acceptable corrosive resistant materials; or of corrosive materials finished and treated as authorized, after fabrication, to prevent corrosion. Weatherproof these fixtures with appropriate gasketing.
- J. Castings shall be of uniform quality, free from blow holes, porosity, hard spots, shrinkage defects, cracks of other imperfections that will affect their strength or appearance or would create inferior quality of metal. Where castings are made in parts, joints must be brazed and/or joined so as to cause no break in ornamentation.
- K. Furnish and install required lamps in every lighting fixture of wattage, quantities and types specified and shown on the drawings.
- L. Furnish each fixture with not less than 6'-0" of wire for connections to outlet box. Wire size shall be not less than #14 AWG.
- M. All lighting fixtures shall be equipped with earthquake clips.

2.2 FINISHING

- A. Except for stainless steel, give ferrous metal surfaces a five stage phosphate treatment or other acceptable base bonding treatment before final painting and after fabrication. Pretreated or prebonderized sheet steel used in fabrication of fixtures will not be acceptable unless treated as described above.
- B. Final finish on all light reflecting surfaces and exposed trim on fixtures shall be baked with white enamel unless specified otherwise. The baked white enamel finish shall meet or exceed the following requirements: shall have a reflection factor not less than 86%, flat test samples shall withstand 300 hours of salt spray when tested in accordance with ASTM B-117-49T, shall withstand repeated bending around 1/4" diameter rod without cracking, peeling and loosening finish

from face metal, shall withstand a 2H drawing pencil flat sharpened and held at 45 degrees and pushed into the surface of the finish without cutting the paint, a 1/8" cross scribe to base metal shall not loosen paint when a dull knife is dragged diagonally across the surface, and flat test samples shall withstand 1,000 hours in a humidity cabinet.

- C. Finish non-reflecting surfaces and hidden fixture surfaces in baked white enamel unless specified otherwise.
- D. Apply porcelain finished smoothly. Finish shall be not less than 7.5 mils thick of non-yellowing, white, vitreous porcelain enamel with a reflectance of not less than 85%.
- E. Finish exterior lighting fixtures of sheet steel with an even coating of zinc or cadmium on all inside and outside surfaces and edges after completion of fabrication. Cadmium plating shall be not less than 0.00015 inch thick. Zinc coating shall be not less than 0.0005 inch thick and may be applied by hot dipping or electroplating. Where heat treated steel is used, zinc coating shall be applied by electroplating only.
- F. Applied finished on aluminum surfaces of interior and exterior fixtures shall be as acceptable.
- G. Finish aluminum trims with an anodized coating of not less than 7 mg. per square inch, of a color and surface finish as selected by the Commissioner.
- H. Finish exterior aluminum and aluminum trims with an anodized coating of not less than 35 mg. per square inch, of a color and surface finish as selected by the Commissioner.
- I. Aluminum reflectors shall be of specular or semi-specular finish and shall meet or exceed Alzak specifications. Where tri-phosphor lamps are used, provide anti or low iridescent Alzak aluminum coating for reflectors and louvers. Minimum requirements of reflector finishes or interior and exterior service shall be as follows:

Description of Service	Minimum Weight of Coating mg. Per Square Inch	Minimum Percent Reflectance Specular Diffuse	
Normal interior commercial	5.0	83	75
General interior industrial and exterior work reflector protected by glass covering	7.5	82	73

2.3 PERFORMANCE AND TESTING

- A. Upon request, furnish and submit performance data on lighting fixtures. Photometric, sound and heat tests shall be by an acceptable and recognized independent testing laboratory prior to acceptance.

2.4 SAMPLES

- A. Furnish sample lighting fixtures for all fixture types. Install sample fixtures in locations as directed by Commissioner. Accepted fixtures may be incorporated in the work.

2.5 FLUORESCENT LIGHTING FIXTURES

A. General Construction and Materials

1. Housing end plates, socket bridges, reflectors, wiring channels and ballast covers shall be die formed of #20 gauge cold rolled steel or heavier unless specified otherwise.
2. Lampholders shall be heavy white with definite locking-in feature and silver plated contacts for proper lamp operation and life. Outdoor lampholders shall be neoprene gasketed and compression type.
3. Construct fixtures so that ballast may be serviced or replaced without removal of fixture housing.
4. Ballasts shall be secured firmly in lighting fixtures to prevent vibrations.
5. Fixtures shall conform to NEMA Standard LE-1.

B. Lenses and Diffusers

1. Plastic for lenses and diffusers shall be formed of colorless 100% virgin acrylic as manufactured by Rohm & Haas, Dupont or as acceptable. The quality of the raw material must exceed IES, SPI and NEMA Specifications by at least 100% which, as a minimum standard, shall not exceed a yellowness factor of 3 after 2000 hours of exposure in the Fade-meter or as tested by an independent test laboratory. Acrylic plastic lenses and diffusers shall be properly cast, molded or extruded as specified, and shall remain free of any dimensional instability, discoloration, embrittlement, or loss of light transmittance for at least 15 years.

2. Plastic lenses and diffusers shall be free of any visible sprue marks and any visible die or casing marks.
3. Plastic lenses and diffusers shall be treated with an anti-static agent.
4. Thickness of plastic lenses and diffusers shall be as specified by manufacturer's catalog number or unless otherwise specified.

C. Ballasts

1. Electronic fluorescent lighting fixture ballast shall be of the energy conservatio type, manufactured in the USA and have an operating frequency of 35-42KHZ with a minimal lamp flicker. The ballast shall operate at an input voltage of 108-132 (120V circuit) at an input frequency of 60 Hz with light output remaining constant for line voltage fluctuation of +5%. Ballast shall have a crest factory of 1.6 or less with a better than 'A' sound rating, have a power factor of .96 or better with ballast efficient of no less than 90%. Total harmonic distortion of not greater than 10%. Ballast shall not contain any "PCB's" and shall be acceptable for any local utility rebates, be UL listed, Class P, Type 1 outdoor, comply with FCC requirements governing electro-magnetic and radio frequency interference, comply wit IEEE Standards for line voltage transient protection, and comply with ANSI and IEEE Standards for harmonic distortion, and have MEA approval for any hard wiring or poke-in wire trap connectors.

D. Lamps

1. All fluorescent lamps shall be as indicated on Lighting Fixture Schedule 4', F32/35K or "U" lamps for 2' x 2' shall be F31T8/TL735/6 unless otherwise noted.

E. General Notes

1. All fluorescent lighting luminaries to be equipped with electronic ballasts manufactured by MagneTek 2-lamp (#B232I120RH) 3-lamp (#B332I120HP) or Motorola 2-lamp (#M2-RN-T8-1LL-120) 3-lamp (#M3-RN-T8-1LL-120) or as approved by Commissioner.
2. All ceiling mounting conditions and luminaire clearances to be confirmed and verified by electrical contractor prior to purchasing luminaries.
3. All acrylic prismatic lenses to be by K-lite KSH-12 virgin acrylic prismatic, unless otherwise noted.

4. Acceptable Materials & Manufacturers

a. Exit Signs

Exide
Atlite
Prescolite Lighting
Lightalarms

b. Lamps - Fluorescent

Duro Test
General Electric Co.
Philips Lighting Co.
Osram/Sylvania Electric Products, Inc.

c. Lampholders - Fluorescent & Incandescent

Leviton Electric Co.
General Electric Co.
Kulka Electric Co.

d. Lenses & Diffusers - Fluorescent

American Louver Co.
K-S-H, Inc.
RLR, Inc.
Rohm & Haas

e. Lighting Fixture Ballasts - Fluorescent

Advance Transformer Co.
Magnetek-Universal

PART 3 - EXECUTION

3.1 LIGHTING FIXTURES INSTALLATION

- A. Furnish and install a lighting fixture of the type indicated at each location shown on the drawings.
- B. Do not scale drawings for exact location of the lighting fixtures. Drawings are intended only to be diagrammatic. In general, refer to the architectural reflected ceiling plans for the proper locations of lighting fixtures.

- C. Install each fixture properly and safely. Furnish and erect hangers, rods, mounting brackets, supports, framed, earthquake clips and other equipment required.
- D. Install lighting fixtures in strict conformance with manufacturer's recommendations and instructions.
- E. Rigidly align continuous rows of lighting fixtures for true in-line appearance.
- F. Install pendant and surface mounted lighting fixtures plumb and at a height from the floor as specified on the drawings. In cases where conditions make this impractical, refer to the Commissioner for a decision. Use ball aligners on pendant fixtures unless noted otherwise.
- G. Do not install fixtures and/or parts such as finishing plates and trims for recessed fixtures until all plastering and painting that may mar fixture finish has been completed.
- H. Lighting fixture locations in Mechanical and Electrical Equipment Rooms are approximate. Coordinate mounting height and location of lighting fixtures to clear mechanical, electrical and plumbing equipment and to adequately illuminate meters, gauges and equipment.
- I. Support all lighting fixtures independently of ductwork or piping.
- J. Wire and install all components in the fluorescent lighting fixtures in accordance with ballast manufacturer's wiring diagrams and recommendations. Test the fixtures with lamps installed and check socket voltages to assure uniform operation.

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**THE CITY OF NEW YORK
DEPARTMENT OF DESIGN AND CONSTRUCTION
DIVISION OF PUBLIC BUILDINGS**

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

Contract for Furnishing all Labor and Material Necessary and Required for:

CONTRACT NO. 1 GENERAL CONSTRUCTION

Renovation of the Bedford Stuyvesant Restoration Youth Arts Academy

LOCATION: 247 Herkimer Street
BOROUGH: Brooklyn, NY 11216
CITY OF NEW YORK

Contractor _____

Dated _____, 20____

Entered in the Comptroller's Office _____

First Assistant Bookkeeper _____

Dated _____, 20____

