



Department of  
Design and  
Construction

PROJECT ID:

PWD99WNY1

**LAW**

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](http://www.nyc.gov/buildnyc)

VOLUME 1 OF 3

# BID BOOKLET

FOR FURNISHING ALL LABOR AND MATERIALS  
NECESSARY AND REQUIRED FOR:

## Center for the Women of New York Renovation

LOCATION:  
BOROUGH:  
CITY OF NEW YORK

207 Totten Avenue  
Queens, 11359

CONTRACT NO. 1

GENERAL CONSTRUCTION WORK

Department of Parks and Recreation

Page Avres Cowley Architects, LLC



Date:

December 7, 2016



Justin Walter  
Chief Administrative Officer  
Administration

December 01, 2017

**CERTIFIED MAIL - RETURN RECEIPT REQUEST**

**SIBA CONTRACTING CORP.  
1815 HARRISON AVENUE  
BAY SHORE, NY 11706**

**RE: FMS ID: PWD99WNY1  
E-PIN: 85016B0070  
DDC PIN: 8502016HR0005C  
CENTER FOR THE WOMEN OF NEW YORK  
RENOVATION-BOROUGH OF QUEENS  
NOTICE OF AWARD**

Dear Contractor:

You are hereby awarded the above referenced contract based upon your bid in the amount of \$2,996,700.00 submitted at the bid opening on February 02, 2017. Within ten (10) days of your receipt of this notice of award, you are required to take the actions set forth in Paragraphs (1) through (3) below. For your convenience, attached please find a copy of Schedule A of the General Conditions to the Contract, which sets forth the types and amounts of insurance coverage required for this contract.

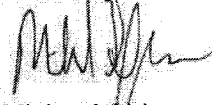
- (1) Execute two copies of the Agreement in the Contracts Unit, 30-30 Thomson Avenue, 1<sup>st</sup> Floor, Long Island City, New York (IDCNY Building). A Commissioner of Deeds will be available to witness and notarize your signature. The Agreement must be signed by an officer of the corporation or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



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

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

Sincerely,



Michael Shipman  
Director of Contracts

## **NOTICE TO BIDDERS:**

- **PROJECT LABOR AGREEMENT:** This contract is subject to a Project Labor Agreement (“PLA”) entered into between the City and the Building and Construction Trades Council of Greater New York (“BCTC”) affiliated Local Unions. By submitting a bid, the Contractor agrees that the PLA is binding on the Contractor and all subcontractors of all tiers. The bidder to be awarded the contract will be required to execute a “Letter of Assent” prior to award.

The Bidder is advised to review the following: (1) Notice regarding the PLA, (2) the PLA, and (3) the Letter of Assent, all of which are set forth at the beginning of Volume 2 of the Contract Documents.

- **SINGLE CONTRACT:** As stated above, this contract is subject to a PLA. The requirements of the Wicks Law for separate prime contractors DO NOT APPLY to any project that is covered by a PLA. Accordingly, the requirements of the Wicks Law for separate prime contractors do not apply to this Project. The Project consists of a single contract, the Contract for General Construction Work.

The Bidder is advised to review the Notice set forth at the beginning of Volume 2 of the Contract Documents. The Notice specifies revisions to the Contract Documents to provide that the Project consists of a single contract and to delete any and all references to separate prime contractors.

- **COMPLIANCE WITH HIRENYC AND REPORTING REQUIREMENTS:** The Hiring and Employment Rider located in Volume 2 of the Contract Documents shall apply to contracts valued at \$1 million or more for all goods, services and construction except human services contracts that are subject to the Public Assistance Hiring Commitment Rider. The Rider describes the Hire NYC process and obligations, including reporting requirements throughout the life of the contract. The Hire NYC process requires contractors to enroll with the Hire NYC system within thirty days after the registration of the contract subject to this solicitation, to provide information regarding all entry to mid-level job opportunities arising from this contract and located in New York City, and to agree to interview qualified candidates from HireNYC for those opportunities. The Rider also includes reporting requirements unrelated to HireNYC.

## **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](http://www.nyc.gov/nycbusiness) to learn more about the loan or contact [constructionloan@sbs.nyc.gov](mailto:constructionloan@sbs.nyc.gov) / (212) 513-6444 to obtain details and to determine preliminary eligibility.**

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

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

## **PRE BID QUESTIONS (PBQs):**

- **Please be advised that PBQs should be submitted to the Agency Contact Person at least five (5) business days (by 5:00 P.M. EST) prior to the bid opening date as indicated in ATTACHMENT 1 – BID INFORMATION, page 22, VOLUME 1 of 3 of this BID PACKAGE.**

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**BID BOOKLET  
PART A**

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PROJECT ID: PWD99WNY1

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

BID BOOKLET

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**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 22)
- 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 16 & 17)

**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 21)
- 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)
- Any Addenda issued prior to the receipt of bids

**FAILURE TO SUBMIT THE EIGHT 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](http://www.nyc.gov/vendex). The bidder may also obtain Vendex forms and instructions by contacting the Agency Chief Contracting Officer or the contact person for this contract.
  - (4) **SPECIAL EXPERIENCE REQUIREMENTS:** The Bidder is advised that Special Experience Requirements may apply to this contract. Such requirements are set forth on pages 3 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

Special Experience Requirements apply as indicated below.

<b>Bidder:</b>	<b>General Construction</b>	<u>  X  </u>	<b>YES</b>	<u>      </u>	<b>NO</b>
<b>Specific Areas of Work:</b>	<b>General Construction</b>	<u>  X  </u>	<b>YES</b>	<u>      </u>	<b>NO</b>

(A) **SPECIAL EXPERIENCE REQUIREMENTS FOR THE BIDDER:** The special experience requirements set forth below apply to the bidder(s) indicated above. Compliance with such special experience requirements will be determined solely by the City prior to an award of contract. Failure to comply with the special experience requirements will result in the rejection of the bid as non-responsive.

- The bidder must, within the last five (5) consecutive years prior to the bid opening, have successfully completed in a timely fashion at least three (3) projects similar in scope and type to the required work, based on architectural style, construction method and materials and age of building for this particular project. One such prior project of the three must have involved a landmarked building, as officially designated by the City, State or federal government.

(B) **QUALIFICATION FORM:** For each project submitted to demonstrate compliance with the special experience requirements, the bidder must complete the Qualification Form included in the Bid Booklet. The City will only evaluate a project if the following criteria are met: (1) the project is described on the Qualification Form, and (2) all information on the Qualification Form is provided. The City will not evaluate any project which does not comply with the criteria set forth herein, including any project which is referred to only on the resume of an individual.

(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.

- a. 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. If the bidder is relying on the prior experience of a principal or employee, it must submit documentation confirming the position held by such principal or employee in the prior entity, as well as in the bidding entity.
- b. 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) **SPECIAL EXPERIENCE REQUIREMENTS FOR SPECIFIC AREAS OF WORK:** The special experience requirements set forth below apply to the contractor or subcontractor that will perform specific areas of work. Compliance with such experience requirements will be evaluated after an award of contract. Within two (2) weeks of such award, the contractor will be required to submit the qualifications of the contractor or subcontractor that will perform these specific areas of work. If the bidder intends to perform these specific areas of work with its own forces, it must demonstrate compliance with the special experience requirements. If the bidder intends to subcontract these specific areas of work, its proposed subcontractor(s) must demonstrate compliance with the special experience requirements. Once approved, no substitution will be permitted, unless the qualifications of the proposed replacement have been approved in writing in advance by the City. The bidder is advised to carefully review these special experience requirements prior to submitting its bid, as such experience requirements will be strictly enforced.

- (1) Special experience requirements apply to the contractor or subcontractor that will perform specific areas of work specified in the section(s) set forth below.

General Construction

- Section 061053: Rough Carpentry and Finish Carpentry
- Section 073150: Slate Shingle Roofing
- Section 081433: Stile and Rail Wood Doors
- Section 085200: Wood Windows

- (2) Special experience requirements applicable to the contractor or subcontractor that will perform specific areas of work are summarized below. Such experience requirements are set forth in full in the Addendum to the General Conditions.

- a. The contractor or subcontractor performing the work of these sections must, within the last five (5) consecutive years prior to the bid opening, have successfully completed in a timely fashion at least three (3) projects similar in scope and type to the required work, based on architectural style, construction method and materials and age of building for this particular project. One such prior project of the three must have involved a landmarked building, as officially designated by the City, State or federal government.
- b. Additionally, for Section 073150, the contractor or subcontractor performing the work of these sections must be a company regularly engaged in performing roofing projects with its own workforce and have successfully completed in a timely fashion at least three (3) roofing projects similar in scope, size and type to the required work within the last three (3) consecutive years prior to the bid opening. At least one of those projects must have been performed within the last twelve (12) months. The three (3) qualifying projects must have utilized one or more of the roofing systems specified for the project being bid herein, been installed by the contractor's or subcontractor's company utilizing its own workforce and must have qualified for, and have been issued, the warranty provided by the manufacturer of the roofing system. In addition, the contractor or subcontractor must be a certified or authorized installer for at least one of the manufacturer's roofing systems specified herein and shall submit proof of same.

- (3) For each project submitted to demonstrate compliance with the special experience requirements for specific areas of work, the contractor or proposed subcontractor will be required to complete the Qualification Form included in the Bid Booklet.

a. The City will only evaluate a project if the following criteria are met: (1) the project is described on the Qualification Form, and (2) all information on the Qualification Form is provided. The City will not evaluate any project which does not comply with the criteria set forth herein, including any project which is referred to only on the resume of an individual.

b. For Section 073150, the contractor or subcontractor must specify, for each qualifying project submitted, the type of roofing system utilized and provide proof that the manufacturer's warranty for that project was issued. The City will only evaluate a project if the following criteria are met: (1) the project is described on the Qualification Form, and (2) all information required to be provided by the contractor or subcontractor on the Qualification Form is actually provided. The City will not evaluate any project which does not comply with the criteria set forth herein, including any project which is referred to only on the resume of an individual.

**Qualification Form**

Project ID: PWD99WNY1

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: SIBA CONTRACTING CORP

Name of Project: Landmark Buildings Rehabilitation, Building No. 401, 409, 411 and 129

Location of Project: Fort Totten, NY

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

Name: Mr. Amir Nosarati, Owner Rep.

Title: Project Manager Phone Number: 646-772-1350

Brief description of work completed: Rehabilitation of Exterior steps, railings, Porches, Porch floors  
Porch ceilings, Building Cornices, Roof Slates, Roofings and interior rehabilitation, columns rehabilitation,  
FSC Certified Mahogany for reconstruction of all the exterior wood work.

Was the work performed as a prime or a subcontractor: Sub-contractor

Amount of Contract: \$1,231,665.00

Date of Completion: 01/17/2010

\*\*\*\*\*

Name of Contractor: SIBA CONTRACTING CORP

Name of Project: White Plains Middle School Eastview

Location of Project: 350 Main St. White Plains, NY 10604

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

Name: Philip Aliberto

Title: Sr. Project Architect - H2M Phone Number: 631-756-8000

Brief description of work completed: Roofing and Masonry rehabilitation, Building cornices flashing  
work, New Balustrades, coping and parapet rehabilitation, windows lintel replacement, Building exterior  
caulking and waerproofing

Was the work performed as a prime or a subcontractor: Prime Contractor

Amount of Contract: 3,097,000.00

Date of Completion: 12/2/2013

**Qualification Form**

Project ID: PWD99WNY1

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: SIBA CONTRACTING CORP

Name of Project: Masonry Veneer Reconstruction at Farmingdale Middle School

Location of Project: 50 Van Cott Ave. Farmingdale, NY

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

Name: Brett Degnan

Title: Project Architect H2M Phone Number: 631-756-8000

Brief description of work completed: Masonry reconstruction of Facade, Windows lintel replacement, Metal Coping and interior block work.

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

Amount of Contract: 1,231,800.00

Date of Completion: 8/31/2015

\*\*\*\*\*  
Name of Contractor: SIBA CONTRACTING CORP

Name of Project: Glenwood Landing Elementary School

Location of Project: 60 Cody Ave. Glen Head, NY

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

Name: Gabriel Divone

Title: Project Architect Phone Number: 631-475-0349

Brief description of work completed: Masonry restoration, Interior structural work, Dormer removal and installation, Gutter rehabilitation work, Steps repair work

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

Amount of Contract: 1,189,000.00

Date of Completion: 8/26/2016

**Qualification Form**

Project ID: PWD99WNY1

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: SIBA CONTRACTING CORP

Name of Project: Rehabilitation of Various Buildings - SUNY Purchase (Music Bldg, Library Bldg., Natural Science Building and Dance Building)

Location of Project: 735 Anderson Hill Rd. Purchase, NY 10577

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

Name: Yirey Fianko

Title: Project Manager Phone Number: 914-251-6827

Brief description of work completed: Masonry Restoration, Windows lintels, Gutter work, Roofing work, interior work, Parapet work etc.

Was the work performed as a prime or a subcontractor: Prime Contractor

Amount of Contract: 614,503.00

Date of Completion: 10/26/2015

Name of Contractor: SIBA CONTRACTING CORP

Name of Project: John Jay Homestead Visitor Center, Carriage Barn Rehabilitation - Landmark Project

Location of Project: 400 Jay St. Katonah, NY 10536

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

Name: Lewis Gleason

Title: Project Architect Phone Number: 212-759-6462

Brief description of work completed: Rehabilitation of Structural column, Beams, Exterior wood siding, New Wood Windows, Windows Glazing, Doors, interior floors, new bathroom and electrical Plumbing and Heating work

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

Amount of Contract: 697,987.00

Date of Completion: 4/18/2013

## 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 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 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 or**

below \$3M for projects in New York City) or if the Contract is subject to a project labor agreement in accordance with Labor Law §222, and the bidder is required to identify at the time of bid submission its intended subcontractors for the Wicks trades (plumbing and gas fitting; steam heating, hot water heating, ventilating and air conditioning (HVAC); and electric wiring), the Contractor must identify all those to which it intends to award construction subcontracts for any portion of the Wicks trade work at the time of bid submission, regardless of what point in the life of the contract such subcontracts will occur. In identifying intended subcontractors in the bid submission, bidders may satisfy any Participation Goals established for this Contract by proposing one or more subcontractors that are MBEs and/or WBEs for any portion of the Wicks trade work. In the event that the Contractor's selection of a subcontractor is disapproved, the Contractor shall have a reasonable time to propose alternate subcontractors.

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

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

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

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

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

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

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

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

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

- (i) The Contractor advertised opportunities to participate in the Contract, where appropriate, in general circulation media, trade and professional association publications and small business media, and publications of minority and women's business organizations;
- (ii) The Contractor provided notice of specific opportunities to participate in the Contract, in a timely manner, to minority and women's business organizations;
- (iii) The Contractor sent written notices, by certified mail or facsimile, in a timely manner, to advise MBEs or WBEs that their interest in the Contract was solicited;
- (iv) The Contractor made efforts to identify portions of the work that could be substituted for portions originally designated for participation by MBEs and/or WBEs in the M/WBE Utilization Plan, and for which the Contractor claims an inability to retain MBEs or WBEs;
- (v) The Contractor held meetings with MBEs and/or WBEs prior to the date their bids or proposals were due, for the purpose of explaining in detail the scope and requirements of the work for which their bids or proposals were solicited;
- (vi) The Contractor made efforts to negotiate with MBEs and/or WBEs as relevant to perform specific subcontracts, or act as suppliers or service providers;
- (vii) Timely written requests for assistance made by the Contractor to Agency's M/WBE liaison officer and to DSBS;
- (viii) Description of how recommendations made by DSBS and Agency were acted upon and an explanation of why action upon such recommendations did not lead to the desired level of participation of MBEs and/or WBEs.

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

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

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

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

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

## **PART B: MISCELLANEOUS**

1. The Contractor shall take notice that, if this solicitation requires the establishment of an **M/WBE Utilization Plan**, the resulting contract may be audited by DSBS to determine compliance with Section 6-129. See §6-129(e)(10). Furthermore, such resulting contract may also be examined by the City's Comptroller to assess compliance with the **M/WBE Utilization Plan**.
2. Pursuant to DSBS rules, construction contracts that include a requirement for an **M/WBE Utilization Plan** shall not be subject to the law governing Locally Based Enterprises set forth in Section 6-108.1 of the Administrative Code of the City of New York.
3. DSBS is available to assist contractors and potential contractors in determining the availability of MBEs and/or WBEs to participate as subcontractors, and in identifying opportunities that are appropriate for participation by MBEs and/or WBEs in contracts.
4. Prospective contractors are encouraged to enter into qualified joint venture agreements with MBEs and/or WBEs as defined by Section 6-129(c)(30).
5. By submitting a bid or proposal the Contractor hereby acknowledges its understanding of the M/WBE Program requirements set forth herein and the pertinent provisions of Section 6-129, and any rules promulgated thereunder, and if awarded this Contract, the Contractor hereby agrees to comply with the M/WBE Program requirements of this Contract and pertinent provisions of Section 6-129, and any rules promulgated thereunder, all of which shall be deemed to be material terms of this Contract. The Contractor hereby agrees to make all reasonable, good faith efforts to solicit and obtain the participation of MBEs and/or WBEs to meet the required **Participation Goals**.

## **ARTICLE II. ENFORCEMENT**

1. If Agency determines that a bidder or proposer, as applicable, has, in relation to this procurement, violated Section 6-129 or the DSBS rules promulgated pursuant to Section 6-129, Agency may disqualify such bidder or proposer, as applicable, from competing for this Contract and the Agency may revoke such bidder's or proposer's prequalification status, if applicable.
2. Whenever Agency believes that the Contractor or a subcontractor is not in compliance with Section 6-129 or the DSBS rules promulgated pursuant to Section 6-129, or any provision of this Contract that implements Section 6-129, including, but not limited to any **M/WBE Utilization Plan**, Agency shall send a written notice to the Contractor describing the alleged noncompliance and offering the Contractor an opportunity to be heard. Agency shall then conduct an investigation to determine whether such Contractor or subcontractor is in compliance.
3. In the event that the Contractor has been found to have violated Section 6-129, the DSBS rules promulgated pursuant to Section 6-129, or any provision of this Contract that implements Section 6-129, including, but not limited to, any **M/WBE Utilization Plan**, Agency may determine that one of the following actions should be taken:
  - (a) entering into an agreement with the Contractor allowing the Contractor to cure the violation;
  - (b) revoking the Contractor's pre-qualification to bid or make proposals for future contracts;
  - (c) making a finding that the Contractor is in default of the Contract;
  - (d) terminating the Contract;
  - (e) declaring the Contractor to be in breach of Contract;
  - (f) withholding payment or reimbursement;
  - (g) determining not to renew the Contract;
  - (h) assessing actual and consequential damages;

- (i) assessing liquidated damages or reducing fees, provided that liquidated damages may be based on amounts representing costs of delays in carrying out the purposes of the M/WBE Program, or in meeting the purposes of the Contract, the costs of meeting utilization goals through additional procurements, the administrative costs of investigation and enforcement, or other factors set forth in the Contract;
- (j) exercising rights under the Contract to procure goods, services or construction from another contractor and charge the cost of such contract to the Contractor that has been found to be in noncompliance; or
- (k) taking any other appropriate remedy.

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

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

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

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

Tax ID #: 20-1455153

APT E- PIN#: 85016B0070

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 # 85016B0070 FMS Project ID#: PWD99WNY1

Project Title/Agency Center for the Women of New York Renovation

PIN # 8502016HR0005C

Bid/Proposal Response Date: February 02, 2017

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 Negron 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 interior rehabilitation of the first floor to include fire protection, mechanical and electrical work and the installation of an ADA lift. Exterior restoration of the slate roof and the repair of the entire porch.

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 American in Professional Services

Prime Contract Industry: Construction

Group	Percentage
Unspecified *	30 %
or	
Black American	Unspecified %
Hispanic American	Unspecified %
Asian American	Unspecified %
Women	Unspecified %
<b>Total Participation Goals</b>	<b>30 %</b>

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.

Tax ID #: 20-1455153

APT E-  
PIN#: 85016B0070

**SCHEDULE B - Part II: MWBE Participation Plan**

Part II to be completed by the bidder/proposer:

Please note: For Non-MWBE 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 #	<u>26-2883842</u>	FMS Vendor ID #	
Business Name	<u>The Wits Corporation Inc.</u>	Contact Person	<u>Abdul Khaliq</u>
Address	<u>735 Coney Island Ave. Brooklyn, NY 11218</u>		
Telephone #	<u>347-400-7120</u>	Email	<u>abdul10550@aol.com</u>

**Section II: MWBE Utilization Goal Calculation. Check the applicable box and complete subsection.**

**PRIME CONTRACTOR ADOPTING AGENCY M/WBE PARTICIPATION GOALS**

<input checked="" type="checkbox"/> For Prime Contractors (including Qualified Joint Ventures and M/WBE firms) adopting Agency M/WBE Participation Goals.  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 MWBE prime contractor or Qualified Joint Venture.  Please review the Notice to Prospective Contractors for more information on how to obtain credit for MWBE participation.	Total Bid/Proposal Value	Agency Total Participation Goals (Line 1, Page 6)		Calculated M/WBE Participation Amount
	\$ 2,996,700.00	X 30% of Bid Amount	=	\$ 899,010.00 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.  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 MWBE prime contractor or Qualified Joint Venture.  Please review the Notice to Prospective Contractors for more information on how to obtain credit for MWBE participation.	Total Bid/Proposal Value	Adjusted Participation Goal (From Partial Waiver)		Calculated M/WBE Participation Amount
	\$	X	=	\$ Line 3



Tax ID #: 20-1455153

APT E-  
PIN#: 85016B0070

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

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

MBE  WBE

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

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

**Section IV: General Contract Information**

What is the expected percentage of the total contract dollar value that you expect to award in subcontracts for services, regardless of M/WBE status? % 1,000,000.00

Enter brief description of the type(s) and dollar value of subcontracts for services to be awarded and subcontracting if awarded the 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.)

Interior & Exterior Work

✓ Scopes of Subcontract Work

**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 6-19 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 to accept this Contract, to comply with the M/WBE participation requirements of this Contract, the pertinent provisions of Section 6-19 and the rules promulgated thereunder, all of which will be deemed to be material terms of this Contract;
4. agree and affirm that it is a non-achar term of the Contract that the vendor will award the total dollar value of the M/WBE Participation Goals to qualified MBEs and/or WBEs, unless a full written and signed consent is granted by the Agency;
5. agree and affirm that towards this Contract, to make all reasonable, good faith efforts to meet the M/WBE Participation Goals, and to provide as outlined or such notices are mandated by the Agency, to meet the M/WBE Participation Goals by utilizing and certifying MBE and/or WBE firms.

Signature *Iftikhar Haider*  
Print Name IFTIKHAR HAIDER

Date 02/02/2017  
Title PRESIDENT

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

**Contract Overview**

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

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

\_\_\_\_\_ % Agency M/WBE Participation Goal

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

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

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

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

**References**

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

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

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

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

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

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

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

**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: \_\_\_\_\_ %

**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: PWD99WNY1**

**Center for the Women of New York Renovation  
207 Totten Avenue  
Queens, 11359**

Name of Bidder: SIBA CONTRACTING CORP

Date of Bid Opening: 02-02-2017

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

Place of Business of Bidder: 1815 HARRISON AVE. BAY SHORE, NY 11706

Bidder's Telephone Number: 631-643-1012 Bidder's Fax Number: 866-570-2104

Bidder's Email Address: info@sibacontracting.com

Residence of Bidder (If Individual): \_\_\_\_\_

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

Names of Partners

Residence of Partners

_____	_____
_____	_____
_____	_____

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

Organized under the laws of the State of New York

Name and Home Address of President: 43 Wilmington Dr. Melville, NY 11747

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

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

## BID FORM

---

The above-named Bidder affirms and declares:

1. The said bidder is of lawful age and the only one interested in this bid; and no person, firm or corporation other than hereinbefore named has any interest in this bid, or in the Contract proposed to be taken.
2. By submission of this bid, each bidder and each person signing on behalf of any bidder certifies, and in the case of a joint bid each party thereto certifies as to its own organization, under penalty of perjury, that to the best of its knowledge and belief: (1) the prices in this bid have been arrived at independently without collusion, consultation, communication or agreement, for the purpose of restricting competition, as to any matter relating to such prices with any other bidder or with any competitor; (2) unless otherwise required by law, the prices quoted in this bid have not been knowingly disclosed by the bidder and will not knowingly be disclosed by the bidder prior to opening, directly or indirectly, to any other bidder or to any competitor; and (3) no attempt has been made or will be made by the bidder to induce any other person, partnership or corporation to submit or not to submit a bid for the purpose of restricting competition.
3. No councilman or other officer or employee or person whose salary is payable in whole or in part from the City Treasury is directly or indirectly interested in this bid, or in the supplies, materials, equipment, work or labor to which it relates, or in any of the profits thereof.
4. The bidder is not in arrears to the City of New York upon debt or contract or taxes, and is not a defaulter, as surety or otherwise, upon any obligation of the City of New York, and has not been declared not responsible, or disqualified, by any agency of the City of New York or State of New York, nor is there any proceeding pending relating to the responsibility or qualification of the bidder to receive public contracts except as set forth on the Affirmation included as page 17 of this Bid Booklet.

The bidder hereby affirms that is 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:

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

**Section V: Vendor Certification and Required Affirmations:**

I hereby:

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

**BID FORM**

**PROJECT ID: PWD99WNY1**

**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 items (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

\$ 1,277,990.00

+

\$ 1,688,710.00

Total Price for Item A= \$ 2,966,700.00

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

\$30,000.00

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

\$ 2,996,700.00

*EB 2/2/17*

**BIDDER'S SIGNATURE AND AFFIDAVIT**

\* **SUBCONTRACTOR IDENTIFICATION:** You **MUST** complete and submit the form entitled "Bidder's Identification of Subcontractors" (page 17) 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".  X  Yes   No

Bidder: SIBA CONTRACTING CORP

By: IFTEKHAR HAIDER

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

*[Signature]*  
Attest:  
(Corporate Seal)

Secretary of Corporate Bidder

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

**BID FORM (TO BE NOTARIZED)**

\*\*\*\*\*

**AFFIDAVIT WHERE 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 Suffolk ss:

being duly sworn says:

I am the President of the above named corporation whose name is subscribed to and which executed the foregoing bid. I reside at 43 Wilmington Dr. Melville, NY 11706

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  
2nd day of Feb. 2017

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

SABUHI ALIKHAN  
NOTARY PUBLIC-STATE OF NEW YORK  
No. 01AL6246410  
Qualified in Suffolk County  
My Commission Expires August 08, 2019



**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: SIBA CONTRACTING CORP  
Address: 1815 HARRISON AVE.  
City: BAY SHORE State: NY Zip Code: 11706

**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  
20-1455153

By: Iftexhar Haider *Iftexhar Haider*  
Signature: \_\_\_\_\_  
Title: President, SIBA CONTRACTING CORP

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 completed 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.

All listed subcontractors must be used to perform the work identified on this form for the amount listed. The listed subcontractors are not alternatives to each other. The list of subcontractors is to be submitted in a separate sealed envelope by completing the form 'Bidders Identification of Subcontractors' for 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 complete this form using its own name.

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 Local Law 129, 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 Target Subcontracting Percentage identified in Schedule B (Subcontractor Utilization Plan), the bid will be non-responsive unless the bidder requests and obtains a Waiver of Target Subcontracting Percentage (Schedule B, Part III) in advance of bid submission. Failure to submit the completed 'BIDDERS IDENTIFICATION OF SUBCONTRACTORS' form that includes the names of subcontractors and the agreed upon amounts to be paid to such subcontractors will render the bid non-responsive.

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.

**BIDDER'S IDENTIFICATION OF SUBCONTRACTORS**

Project ID: PWD99WNY1

**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:**

SIBA CONTRACTING CORP

(Print Name)

Agreed amount to be paid Subcontractor: \$ 250,000.00

Description of Plumbing Work:

Boiler and Water Heater hook up

2" Water supply to the main, and

Venting and Sewer work, plumbing fixtures

2. **HVAC CONTRACTOR:**

SIBA CONTRACTING CORP

(Print Name)

Agreed amount to be paid Subcontractor: \$ 275,000.00

Description of HVAC Work:

Baseboard Heaters for cellar, first, 2nd and attic

hvac control, chimney duct work etc.

3. **ELECTRICAL CONTRACTOR:**

SIBA CONTRACTING CORP

(Print Name)

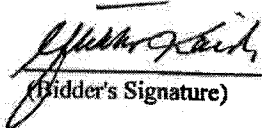
Agreed amount to be paid Subcontractor: \$ 285,000.00

Description of Electrical Work:

New Electrical Fixtures hook-up, wiring,

Fire Alarm system, Emergency lights etc.

**BIDDER'S SIGNATURE:** The Bidder must sign and complete this form in the spaces provided below:

  
(Bidder's Signature)

IFTEKHAR HAIDER

(Print Name)

1815 HARRISON AVE. BAY SHORE, NY 11706

(Address)

PRESIDENT

(Title)

631-643-1012

(Phone #)

866-570-2104

(Fax#)

02-02-2017

(Date)

BID BOND 1  
FORM OF BID BOND

KNOW ALL MEN BY THESE PRESENTS. That we, SIBA CONTRACTING CORP

hereinafter referred to as the "Principal", and COLONIAL SURETY COMPANY

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 \_\_\_\_\_

10% of the amount Bid

(\$ 300,000.00 ), Dollars lawful money of the United States, for the payment of which said sum of money well and truly to be made, we, and each of us, bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

Whereas, the Principal is about to submit (or has submitted) to the City the accompanying proposal, hereby made a part hereof, to enter into a contract in writing for Center for the Women of New York Renovation

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

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

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

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

BID BOND 2

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

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

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

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

IN WITNESS WHEREOF, the Principal and the Surety have hereunto set their hands and seals and such of them as are corporations have caused their corporate seals to be hereto affixed and these presents to be signed by their proper officers the 2nd day of February, 2017.

(Seal)

SIBA CONTRACTING CORP

(L.S.)

Principal

By:

*[Signature]*  
PRESIDENT (IFEKHAR HAIDER)

(Seal)

PHILIP SHEPARD

Surety

By:

*[Signature]*  
ATTORNEY IN - FACT

BID BOND 3

ACKNOWLEDGEMENT OF PRINCIPAL, IF A CORPORATION

State of NEW YORK County of SUFFOLK ss:  
On this 2ND day of FEBRUARY, before me personally came MR. IFTEKHAR HAIDER to me known, who, being by me duly sworn, did depose and say that he resides at 43 WILMINGTON DR. MELVILLE, NY 11747 that he is the PRESIDENT of SIBA CONTRACTING CORP the corporation described in and which executed the foregoing instrument; that he knows the seal of said corporation; that one of the seals affixed to said instrument is such seal; that it was so affixed by order of the directors of said corporation, and that he signed his name thereto by like order.

SABUHI ALIKHAN  
NOTARY PUBLIC-STATE OF NEW YORK  
No. 01AL6246410  
Qualified in Suffolk County  
My Commission Expires August 08, 2019

Sabuhi Alikhan  
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

**Colonial Surety Company**  
 Duncannon, Pennsylvania  
 -Inc 1930-

**Balance Sheet as at December 31, 2015**

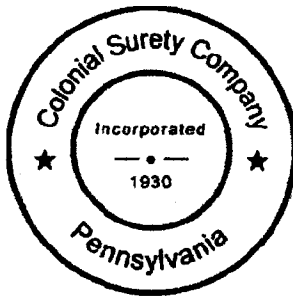
<b>Cash &amp; Invested Assets:</b>		<b>Liabilities:</b>	
Cash.....	\$4,470,983	Outstanding Losses and Loss Expenses...	\$12,427,807
Short Term Investments.....	1,187,346	Unearned Premiums.....	7,703,352
Bonds*.....	43,248,392	Funds Held.....	513,329
Common Stocks*.....	37,695	Reinsurance Payable.....	724,695
Accrued Investment Income..	386,593	Accrued Expenses.....	422,470
Receivables for Securities.....	<u>1,323</u>	Income Taxes Payable.....	723,455
		Provision for Reinsurance.....	<u>19,338</u>
<b>Total Cash &amp; Invested Assets..</b>	<b>\$49,332,332</b>	<b>Total Liabilities.....</b>	<b>\$22,534,446</b>
<b>Other Assets:</b>		<b>Capital &amp; Surplus:</b>	
Premiums Receivable.....	\$1,651,878	Common Capital Stock.....	\$3,000,000
Funds Held - Collateral.....	513,329	Additional Paid in Capital.....	1,000,000
Reinsurance Recoverable.....	1,779,356	Unassigned Surplus.....	<u>27,621,737</u>
Net Deferred Tax Assets.....	665,603	<b>Total Capital &amp; Surplus.....</b>	<b><u>31,621,737</u></b>
Miscellaneous Assets.....	<u>213,685</u>	<b>Total Liabilities, Capital &amp; Surplus.....</b>	<b><u>\$54,156,183</u></b>
<b>Total Admitted Assets.....</b>	<b><u>\$54,156,183</u></b>		

\*Bonds and stocks are valued on basis approved by National Association of Insurance Commissioners.

STATE OF NEW JERSEY }  
 ss.:  
 COUNTY OF BERGEN }

I, Wayne Nunziata, President of Colonial Surety Company, do hereby certify that the foregoing is a full, true and correct copy of the Financial Statement of said Company, as of December 31, 2015.

IN WITNESS WHEREOF, I have signed this statement at Woodcliff Lake, New Jersey, this 30<sup>th</sup> day of March, 2016.



*Wayne Nunziata*  
 Wayne Nunziata President

*Theresa Spinelli*  
 Theresa Spinelli Notary Public

**THERESA SPINELLI**  
 A Notary Public of New Jersey  
 My Commission Expires September 9, 2020

State of New York

County of Suffolk

AND NOW, this 2nd day of February, in the calendar year of 2017, before me, a duly appointed and commissioned notary public, came the identified subscriber to the within instrument or instruments, and/or the demonstrated attorney-in-fact for said signatory and subscriber on said instrument or instruments, **Philip Shepard, attorney-in-fact of Colonial Surety Company**, an insurance company duly organized and existing under the laws of the Commonwealth of Pennsylvania and which is authorized to conduct business in this State, and that as such being authorized to do so, acknowledged that the within instrument or instruments were executed as the authorized act of his disclosed principal for the purposes therein contained, and declared to be a person executing said instrument or instruments as attorney-in-fact and with full capacity and competency, at the request of and on behalf of Colonial Surety Company therein named and acknowledged to me that the aforesaid Colonial Surety Company had authorized the execution by the aforesaid attorney-in-fact of said instrument or instruments with the intent to be legally bound as required by common and statutory law.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

A Notary Public of New York  
My Commission Expires on 8-8-2019

Notary Public in and for the

County of Suffolk  
State of New York

Sabuhi Ali Khan  
NOTARY PUBLIC

SABUHI ALIKHAN  
NOTARY PUBLIC-STATE OF NEW YORK  
No. 01AL6246410  
Qualified in Suffolk County  
My Commission Expires August 08, 2019



### COLONIAL SURETY COMPANY

Duncannon, Pennsylvania  
Administrative Office: 123 Tice Boulevard, Woodcliff Lake, New Jersey 07877

#### GENERAL POWER OF ATTORNEY

Know all Men by These Presents, That COLONIAL SURETY COMPANY, a corporation duly organized and existing under the laws of the Commonwealth of Pennsylvania and having an administrative office in Woodcliff Lake, Bergen County, NJ does by these presents make, constitute and appoint Philip Shepard of Bay Shore, NY its true and lawful Attorney(s)-in-Fact, with full power and authority hereby conferred in its name, place and stead, to execute, acknowledge and deliver.

#### Bid Bonds and Consent of Surety Only

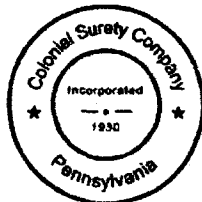
and to bind the Company thereby as fully and to the same extent as if such bids were signed by the President, sealed with the corporate seal of the Company and duly attested by its Secretary, hereby ratifying and confirming all that the said Attorney(s)-in-Fact may do in the premises. Said appointment is made under and by authority of the following resolution adopted by the Board of Directors of the Colonial Surety Company at a meeting held on the 25th day of July, 1960.

"Be It Resolved, that the President, any Vice-President, any Secretary or any Assistant Secretary shall be and is hereby vested with full power and authority to appoint any one or more suitable persons as Attorney(s)-in-Fact to represent and act for and on behalf of the Company subject to the following provisions:

"Section 1. Attorney-in-Fact. Attorney-in-Fact may be given full power and authority for and in the name of and on behalf of the Company, to execute, acknowledge and deliver, bid bonds and consent of surety only, recognizances, contracts, agreements of indemnity and other conditional or obligatory undertakings and any and all notices and documents canceling or terminating the Company's liability thereunder, and any such instruments so executed by any such Attorney-in-Fact shall be binding upon the Company as if signed by the President and sealed and attested by the Corporate Secretary."

"In Witness Whereof, Colonial Surety Company has caused these presents to be signed by its President and its corporate seal to be hereto affixed the 8th day of September, A.D., 2015.

State of New Jersey }  
County of Bergen } SS.



COLONIAL SURETY COMPANY

By Wayne Nurziata  
Wayne Nurziata, President

On this 8th day of September, in the year 2015, before me Theresa Spinelli, a notary public, personally appeared Wayne Nurziata, personally known to me to be the person who executed the within instrument as President on behalf of the corporation therein named and acknowledged to me that the corporation executed it.



THERESA SPINELLI  
A Notary Public of New Jersey  
My Commission Expires September 9, 2020

Theresa Spinelli  
Theresa Spinelli Notary Public

I, the undersigned Secretary of Colonial Surety Company, hereby certify that the above and foregoing is a full, true and correct copy of the Original Power of Attorney issued by said Company, and do hereby further certify that the said Power of Attorney is still in force and effect.

And I do hereby further certify that the Certification of this Power of Attorney is signed and sealed by facsimile under and by the authority of the following resolution adopted by the Board of Directors of the Colonial Surety Company at a meeting duly called and held on the 30th of January 1968, and that said resolution has not been amended or repealed:

RESOLVED, that the signature of the Secretary or any Assistant Secretary of this Corporation, and the seal of Corporation, may be affixed or printed by facsimile to any certificate to a Power of Attorney of this Corporation, and that such printed facsimile signature and seal shall be valid and binding upon this Corporation."

GIVEN under my hand and the seal of said Company, at Woodcliff Lake, New Jersey this 2nd day of February, 20 17

Original printed with Blue and/or Black ink.  
For verification of the authenticity of this Power of Attorney you may call (201) 573-8788 and ask for the Power of Attorney clerk. Please refer to the above named individual(s) and details of the bond to which the power is attached.

Audie B. Murphy  
Audie B. Murphy, Secretary

## 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

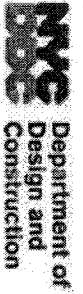
### Limitations on Use of Bid Breakdown:

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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Project: Center for the Women of New York Renovation  
 Location: 207 Totten Avenue, Bayside, NY 11359  
 Bidder: SIBA CONTRACTING CORP

CONTRACTOR'S BID BREAKDOWN FORM  
 CONTRACT 1 - GENERAL CONSTRUCTION WORK

DOC ID: PWD098WNY1  
 Sponsor Agency: DPR

CSI NUMBER	DESCRIPTION	QUANTITY	UNIT	UNIT COST OF MATERIAL	TOTAL COST OF MATERIAL	UNIT COST OF LABOR	TOTAL COST OF LABOR	TOTAL COST OF MATERIALS AND LABOR
02 0000	EXISTING CONDITIONS							
34119	REMOVE EXISTING STAIRS and section of floor - 1st Fl. To Bmnt.	150	SF	\$ 12.00	\$ 1,800.00	\$ 18.00	\$ 2,700.00	\$ 4,500.00
	Subtotal				\$ 1,800.00		\$ 2,700.00	\$ 4,500.00
03 0000	CONCRETE							
35000	Remove Existing Grass for Conc. Sidewalk to ADA Wheelchair Lift	200	SF	\$ 12.00	\$ 2,400.00	\$ 25.00	\$ 5,000.00	\$ 7,400.00
	Concrete Sidewalk to ADA Wheelchair Lift	1100	SF	\$ 12.00	\$ 13,200.00	\$ 25.00	\$ 27,500.00	\$ 40,700.00
	Concrete Pad Fdn. For ADA Wheelchair Lift	100	SF	\$ 12.00	\$ 1,200.00	\$ 25.00	\$ 2,500.00	\$ 3,700.00
	Misc. Patch SOG after Demo @ 1/2 of Bldg.	500	SF	\$ 15.00	\$ 7,500.00	\$ 25.00	\$ 12,500.00	\$ 20,000.00
	Patch SOG after installing Sanitary Piping @ Cellar	250	SF	\$ 12.00	\$ 3,000.00	\$ 18.00	\$ 4,500.00	\$ 7,500.00
	Subtotal				\$ 27,300.00		\$ 52,000.00	\$ 79,300.00
06 0000	WOOD, PLASTICS AND COMPOSITES							
61050	Miscellaneous Carpentry (INCLUDED W/ section 061053)	13000		\$ 18.00	\$ 27,000.00	\$ 35.00	\$ 52,500.00	\$ 79,500.00
61053	ROUGH CARPENTRY AND FINISH CARPENTRY							
	Facade:							
	Remove and patch Wall Railing @ porch @ Wheelchair Lift	20	LF	\$ 25.00	\$ 500.00	\$ 45.00	\$ 900.00	\$ 1,400.00
	New Removeable Wood Ramp Landing to Entrance Door @ Porch Railing @ ADA Wood Ramp to Entrance Door @ Porch	60	SF	\$ 70.00	\$ 4,200.00	\$ 95.00	\$ 5,700.00	\$ 9,900.00
	Wood Enclosure & Gate @ ADA Wheelchair Lift	18	LF	\$ 1,850.00	\$ 33,300.00	\$ 125.00	\$ 2,250.00	\$ 15,750.00
	Guard Railing Behind Railing @ Porches - 1st floor	30	LF	\$ 75.00	\$ 2,250.00	\$ 175.00	\$ 5,250.00	\$ 7,500.00
	Remove & replace Porch Railing & Ornamental Wd. Features @ 1st & 2nd Fl.	25	LF	\$ 800.00	\$ 20,000.00	\$ 100.00	\$ 2,500.00	\$ 22,500.00
	Basement:							
	Remove & Replace Existing Entrance Steps - (Tread & Rise)	50	LF	\$ 275.00	\$ 13,750.00	\$ 325.00	\$ 16,250.00	\$ 30,000.00
	Remove & Replace Wood Gak. On Porches @ 1st & 2nd Fl. - 11' h	26	ea	\$ 4,500.00	\$ 117,000.00	\$ 5,500.00	\$ 143,000.00	\$ 260,000.00
	Remove / Replace Porch Flooring @ Both Levels + Refinish Ornamental Woodwork @ Porch - Repair Loose Pieces	450	SF	\$ 35.00	\$ 15,750.00	\$ 45.00	\$ 20,250.00	\$ 36,000.00
	Remove / Replace Misc. Wood Porch Items	110	LS	\$ 350.00	\$ 38,500.00	\$ 65.00	\$ 7,150.00	\$ 45,650.00
	Misc. Protection, Blocking & Rough Carpentry	1	LS	\$ 12,500.00	\$ 12,500.00	\$ 18,500.00	\$ 18,500.00	\$ 31,000.00
	Basement							
	Patch & Reframe opening / replace Existing Stairs w/ New Stairs - 1st Flr to Bmnt.	16	ea	\$ 650.00	\$ 10,400.00	\$ 950.00	\$ 15,200.00	\$ 25,600.00
	1st Floor:							
	Repair Tongue & Groove Beaded Ceiling @ Porches @ 1st & 2nd Fl.	450	SF	\$ 12.00	\$ 5,400.00	\$ 18.00	\$ 8,100.00	\$ 13,500.00
	Misc. Finish Carpentry, Trim & Patch	1	LS	\$ 35.00	\$ 35.00	\$ 45.00	\$ 45.00	\$ 80.00
	Subtotal				\$ 335,400.00		\$ 386,400.00	\$ 721,800.00

CSI NUMBER	DESCRIPTION	QUANTITY	UNIT	UNIT COST OF MATERIAL	TOTAL COST OF MATERIAL	UNIT COST OF LABOR	TOTAL COST OF LABOR	TOTAL COST OF MATERIALS AND LABOR
07 0900	HERMAL AND MOISTURE PROTECTION							
71353	SHEET MEMBRANE WATERPROOFING (Included w/section 07150)	700	SF	20.00	14,000.00	25.00	17,500.00	31,500.00
73150	SLATE SHINGLE ROOFING	350	SF	18.00	6,300.00	30.00	10,500.00	16,800.00
	Replace Damaged Slate Roof Tiles - assume 15% Replacement				20,300.00		28,000.00	48,300.00
	Subtotal							
76200	SHEET METAL FLASHING AND TRIM	140	LF	250.00	35,000.00	350.00	49,000.00	84,000.00
	Remove & Replace Cornice & Gutters				8,750.00	35.00	2,450.00	11,200.00
	Replace Ridge Flashing @ Main Roof & Dormer Roofs	70	LF	125.00	8,750.00		51,450.00	95,200.00
	Subtotal							
79410	PENETRATION FIRESTOPPING	1	LS	4,800.00	4,800.00	11,500.00	11,500.00	16,300.00
	Firestopping @ Bmnt, 1st Fl. & 2nd Fl.				3,500.00	5,500.00	6,500.00	10,000.00
	Misc. Caulking and sealants - interior @ cellar, 1st, 2nd Fl.	1	LS	3,500.00	3,500.00		18,000.00	26,300.00
	Subtotal							
08 0900	OPENINGS							
81433	STILE AND RAIL WOOD DOORS							
	Basement							
	Remove & Relocate Exstg Exterior Door@New Recessed location for egress	8	EA	2,800.00	23,200.00	1,800.00	14,400.00	37,600.00
	New - Doors, Frames, hardware & Install	8	EA	1,500.00	12,000.00	650.00	5,200.00	17,200.00
	Fire Rated Doors	8	EA	1,200.00	9,600.00	450.00	3,600.00	13,200.00
	1st Floor:							
	New - Doors, Frames, hardware & installing reproduction casings	10	EA	2,900.00	29,000.00	1,800.00	18,000.00	47,000.00
	Fire Rated Doors	10	EA	1,200.00	12,000.00	450.00	4,500.00	16,500.00
	Security Door Entry Hdwr.:	4	EA	1,500.00	6,000.00	550.00	2,200.00	8,200.00
	Sliding Closet Door & Frame	4	EA	3,000.00	12,000.00	4,500.00	18,000.00	30,000.00
	Change Door Swings of Exterior Doors	4	EA	950.00	3,800.00	850.00	3,400.00	7,200.00
	Misc. Patching & Repl. Exstg. Interior Doors, Frames & Hdwr.:	13	EA	1,500.00	19,500.00	1,800.00	23,400.00	42,900.00
	2nd Floor: Exstg. Door to be upgraded to Fire Rated Door	2	EA	1,800.00	3,600.00	1,200.00	2,400.00	6,000.00
	Subtotal							
					130,700.00		95,100.00	225,800.00
85200	Wood Windows							
	Restore Wood Window frames and stools, reinstall sash & hardware	60	LF	250.00	15,000.00	350.00	21,000.00	36,000.00
	Rem. & Replace Cellar Widws. Below Porch & Not Visible (New wdws Alum)	14	EA	1,500.00	21,000.00	550.00	7,700.00	28,700.00
	Subtotal							
					36,000.00		28,700.00	64,700.00

21 - 3

CSI NUMBER	DESCRIPTION	QUANTITY	UNIT	UNIT COST OF MATERIAL	TOTAL COST OF MATERIAL	UNIT COST OF LABOR	TOTAL COST OF LABOR	TOTAL COST OF MATERIALS AND LABOR
08 2110	DOOR HARDWARE(Including w / other Division & sectional)							
09 000	FINISHES							
09 2900	GYPSUM BOARD ASSEMBLIES							
	Basement:							
	Wall Type - Fire Rated Walls - 8'h.	800	SF	\$ 5.00	\$ 4,000.00	\$ 18.00	\$ 14,400.00	\$ 18,400.00
	Wall Type - Bd = 3 5/8" stud + Bd	800	SF	\$ 6.00	\$ 4,800.00	\$ 18.00	\$ 14,400.00	\$ 19,200.00
	Wall Type - Bd = 3 5/8" stud + Bd	2700	SF	\$ 12.00	\$ 32,400.00	\$ 18.00	\$ 48,600.00	\$ 81,000.00
	Cellar Ceiling	250	SF	\$ 18.00	\$ 4,500.00	\$ 20.00	\$ 5,000.00	\$ 9,500.00
	D/W Fascia @Stair Omg. After patch & Reframe new stairs - 1st fl to cellar							
	1st Floor:							
	Wall Type - Bd + 3 5/8" stud + Bd+sound blanked 11'h	750	SF	\$ 6.00	\$ 4,500.00	\$ 18.00	\$ 13,500.00	\$ 18,000.00
	Wall Type - Fire Rated Walls - 11'h.	750	SF	\$ 8.00	\$ 6,000.00	\$ 18.00	\$ 13,500.00	\$ 19,500.00
	Wall Type - Chase wall Bd + 3 5/8" stud + Bd+sound blanked 11'h	250	SF	\$ 6.00	\$ 1,500.00	\$ 18.00	\$ 4,500.00	\$ 6,000.00
	Wall Type - Chase wall Bd + 3 5/8" stud + Bd+sound blanked 11'h	250	SF	\$ 8.00	\$ 2,000.00	\$ 18.00	\$ 4,500.00	\$ 6,500.00
	Wall Type - Turred Bd + 3 5/8" stud + Bd+sound blanked 11'h	220	SF	\$ 12.00	\$ 2,640.00	\$ 18.00	\$ 3,960.00	\$ 6,600.00
	Celling	250	SF	\$ 12.00	\$ 3,000.00	\$ 18.00	\$ 4,500.00	\$ 7,500.00
	Patch rter Damo. For new opng. In Exng Wall	350	SF	\$ 12.00	\$ 4,200.00	\$ 18.00	\$ 6,300.00	\$ 10,500.00
	Green Bd. @ Toilets				\$ 69,540.00		\$ 133,160.00	\$ 202,700.00
93000	Tile							
	First Floor:							
	Ceramic Tile - Floor	600	SF	\$ 12.00	\$ 7,200.00	\$ 25.00	\$ 15,000.00	\$ 22,200.00
	Ceramic Tile - Base	80	LF	\$ 20.00	\$ 1,600.00	\$ 35.00	\$ 2,800.00	\$ 4,400.00
	Stone Door Saddle	4	EA	\$ 150.00	\$ 600.00	\$ 250.00	\$ 1,000.00	\$ 1,600.00
	Subtotal				\$ 9,400.00		\$ 18,800.00	\$ 28,200.00
09 6400	WOOD FLOORING							
	Fill in Floor Opng. @ 1st Floor after Removing Stair	1	EA	\$ 2,500.00	\$ 2,500.00	\$ 4,000.00	\$ 4,000.00	\$ 6,500.00
	Subtotal				\$ 2,500.00		\$ 4,000.00	\$ 6,500.00
09 9122	EXTERIOR PAINTING (Included w/ 091053)	1	LS	\$ 18,500.00	\$ 18,500.00	\$ 42,500.00	\$ 42,500.00	\$ 61,000.00
	Subtotal				\$ 18,500.00		\$ 42,500.00	\$ 61,000.00
11 0000	SPECIALTIES							
109416	Fire Extinguishers							
	Fire Extinguishers - No Cabinets	6	EA	\$ 300.00	\$ 1,800.00	\$ 200.00	\$ 1,200.00	\$ 3,000.00
	Subtotal				\$ 1,800.00		\$ 1,200.00	\$ 3,000.00
14 0000	CONVEYING EQUIPMENT							
144250	VERTICAL WHEEL CHAIR LIFTS							
	ADA Wheelchair Lift @ Outside Porch	1	EA	\$ 45,000.00	\$ 45,000.00	\$ 22,000.00	\$ 22,000.00	\$ 67,000.00
	Subtotal				\$ 45,000.00		\$ 22,000.00	\$ 67,000.00
21 0000	FIRE SUPPRESSION							
210511	COMMON WORK RESULTS FOR FIRE PROTECTION							
	New Fire Service - DBI Detector Assembly Meter + 2 Shamese	1	LS	\$ 6,500.00	\$ 6,500.00	\$ 9,000.00	\$ 9,000.00	\$ 15,500.00
	Alarm Panel Fire Alarm Service From Street to Bldg.	1	LS	\$ 12,500.00	\$ 12,500.00	\$ 18,500.00	\$ 18,500.00	\$ 31,000.00
	Subtotal				\$ 19,000.00		\$ 27,500.00	\$ 46,500.00

CSI NUMBER	DESCRIPTION	QUANTITY	UNIT	UNIT COST OF MATERIAL	TOTAL COST OF MATERIAL	UNIT COST OF LABOR	TOTAL COST OF LABOR	TOTAL COST OF MATERIALS AND LABOR
22.1313	<b>AUTOMATIC SPRINKLER SYSTEM</b> Sprinkler Sys. @ ceiling Attic + Hall & Stair area @ 1st Fl & 2nd Fl. Dry Station Piping @ Attic	3500 1	sf LS	\$ 12.00 \$ 12,500.00	\$ 42,000.00 \$ 12,500.00	\$ 18.00 \$ 21,500.00	\$ 63,000.00 \$ 21,500.00	\$ 105,000.00 \$ 34,000.00
	Subtotal				\$ 54,500.00		\$ 84,500.00	\$ 139,000.00
22.0000	<b>PLUMBING</b>							
220513	<b>COMMON WORK RESULTS FOR PLUMBING (including w/ other division)</b>							
220514	Plumbing Tests (including w/section 223000)	1	LS	\$ 4,500.00	\$ 4,500.00	\$ 6,500.00	\$ 6,500.00	\$ 11,000.00
220523	Motors and other Controllers (including w/section 223000)	1	LS	\$ 7,000.00	\$ 7,000.00	\$ 9,000.00	\$ 9,000.00	\$ 16,000.00
220523	General Duty Valves for Plumbing Piping	1	LS	\$ 6,000.00	\$ 6,000.00	\$ 9,000.00	\$ 9,000.00	\$ 15,000.00
	Freeze Proof Valve Hydrants							
	Subtotal				\$ 17,500.00		\$ 24,500.00	\$ 42,000.00
220721	<b>PLUMBING INSULATION (including w/ section 221100)</b>	1	LS	\$ 7,500.00	\$ 7,500.00	\$ 12,500.00	\$ 12,500.00	\$ 20,000.00
221100	<b>WATER DISTRIBUTION PIPING</b>	1	LS	\$ 18,500.00	\$ 18,500.00	\$ 54,000.00	\$ 54,000.00	\$ 72,500.00
	New Hot & Cold Water Service Drains & Vents with excavation and back fill	1	LS	\$ 24,500.00	\$ 24,500.00	\$ 42,600.00	\$ 42,600.00	\$ 67,100.00
	Subtotal				\$ 50,500.00		\$ 109,100.00	\$ 159,600.00
223300	<b>SANITARY AND WASTE DRAINAGE SYSTEMS</b>							
	New Sanitary Sewer to Bldg. with excavation and backfill	1	LS	\$ 28,500.00	\$ 28,500.00	\$ 36,000.00	\$ 36,000.00	\$ 64,500.00
	Subtotal				\$ 28,500.00		\$ 36,000.00	\$ 64,500.00
223000	<b>PLUMBING EQUIPMENT, SPECIALTIES AND ACCESSORIES</b>							
	Misc. Water Connections w/ Backflow Preventer	1	LS	\$ 9,500.00	\$ 9,500.00	\$ 14,500.00	\$ 14,500.00	\$ 24,000.00
	Fire pump & Booster pump for sprinkler system	1	LS	\$ 23,000.00	\$ 23,000.00	\$ 38,500.00	\$ 38,500.00	\$ 61,500.00
	New Hot Water Heater	1	LS	\$ 7,500.00	\$ 7,500.00	\$ 10,500.00	\$ 10,500.00	\$ 18,000.00
	Subtotal				\$ 40,000.00		\$ 63,500.00	\$ 105,500.00
224000	<b>PLUMBING FIXTURES</b>							
142400	Plumbing Fixtures Inclusive of sink and venting	1	LS	\$ 21,500.00	\$ 21,500.00	\$ 26,500.00	\$ 26,500.00	\$ 48,000.00
	Subtotal				\$ 21,500.00		\$ 26,500.00	\$ 48,000.00
230000	<b>HEATING, VENTILATING &amp; AIR CONDITIONING (HVAC)</b>							
230500	Common work Results for HVAC (including w/ section 236450)	1	EA	\$ 18,500.00	\$ 18,500.00	\$ 32,500.00	\$ 32,500.00	\$ 51,000.00
230513	Common Motor Requirements for HVAC (including w/ section 236450)	1	LS	\$ 15,000.00	\$ 15,000.00	\$ 28,000.00	\$ 28,000.00	\$ 43,000.00

CSI NUMBER	DESCRIPTION	QUANTITY	UNIT	UNIT COST OF MATERIAL	TOTAL COST OF MATERIAL	UNIT COST OF LABOR	TOTAL COST OF LABOR	TOTAL COST OF MATERIALS AND LABOR
2305248	Vibration & Seismic Control for HVAC (including w/section 2305993)	1	LS	\$ 17,500.00	\$ 17,500.00	\$ 22,500.00	\$ 22,500.00	\$ 40,000.00
2305993	Testing, Adjusting & Balancing for HVAC Start-up (Blower, Controls, Flue Capacity & Check radiators & control	1	LS	\$ 5,200.00	\$ 5,200.00	\$ 7,800.00	\$ 7,800.00	\$ 13,000.00
	Subtotal				\$ 56,200.00		\$ 90,800.00	\$ 147,000.00
2307000	HVAC INSULATION (including w/section 230450)	1	LS	\$ 21,500.00	\$ 21,500.00	\$ 37,500.00	\$ 37,500.00	\$ 59,000.00
2309000	INSTRUMENTATION & CONTROL FOR HVAC (including w/section 2305993)	1	LS	\$ 33,500.00	\$ 33,500.00	\$ 72,500.00	\$ 72,500.00	\$ 106,000.00
232113	Piping and Accessories	1	LS	\$ 39,500.00	\$ 39,500.00	\$ 55,000.00	\$ 55,000.00	\$ 94,500.00
	Subtotal				\$ 104,500.00		\$ 160,000.00	\$ 264,500.00
2325000	CHEMICAL CLEANING (including w/section 232113)	1	LS	\$ 4,200.00	\$ 4,200.00	\$ 5,800.00	\$ 5,800.00	\$ 10,000.00
233113	Metal Ducts (included w/section 230450)	1	LS	\$ 5,500.00	\$ 5,500.00	\$ 8,500.00	\$ 8,500.00	\$ 14,000.00
	Subtotal				\$ 9,700.00		\$ 14,300.00	\$ 24,000.00
2304500	HVAC EQUIPMENT Provide New Boiler & Tank	1	LS	\$ 22,000.00	\$ 22,000.00	\$ 35,000.00	\$ 35,000.00	\$ 57,000.00
	Subtotal				\$ 22,000.00		\$ 35,000.00	\$ 57,000.00
26 0000	ELECTRICAL BASIC MATERIALS AND METHODS Temporary lighting & power during construction - brnt, 1st & 2nd flrs New Ceiling light fixture & switches @ Ea Room Exterior lighting & signage + porch lighting - 1st fl.	1	LS	\$ 12,000.00	\$ 12,000.00	\$ 18,000.00	\$ 18,000.00	\$ 30,000.00
	Subtotal				\$ 12,000.00		\$ 18,000.00	\$ 30,000.00
260533	Empty Conduit Systems				\$ 100,000.00		\$ 157,000.00	\$ 257,000.00
	Subtotal				\$ 17,000.00		\$ 22,000.00	\$ 39,000.00
26 2400	120 / 208 Volt Electrical System Power to A/C Units & Fans power to wheel chair lift	1	LS	\$ 3,500.00	\$ 3,500.00	\$ 4,000.00	\$ 4,000.00	\$ 7,500.00
	Subtotal				\$ 300.00		\$ 1,500.00	\$ 1,800.00
26 2416	ELECTRICAL DISTRIBUTION SYSTEM (including w/section 262923)	1	LS	\$ 5,500.00	\$ 5,500.00	\$ 7,500.00	\$ 7,500.00	\$ 13,000.00
262923	ELECTRICAL POWER EQUIPMENT Remove Exisg Elect. Service New Elect. Service Box, Meter, Panel, Receptacles & Switches Brnt & 1st flr	1	LS	\$ 1,500.00	\$ 1,500.00	\$ 2,500.00	\$ 2,500.00	\$ 4,000.00
	Subtotal				\$ 2,000.00		\$ 3,500.00	\$ 5,500.00
28 0000	ELECTRONIC SAFETY AND SECURITY FIRE ALARM SYSTEM	1	LS	\$ 5,000.00	\$ 5,000.00	\$ 8,000.00	\$ 8,000.00	\$ 13,000.00
283113	Emergency Lightg, Fixtures & Exit Signs Fire Alarm System	1	LS	\$ 18,500.00	\$ 18,500.00	\$ 25,000.00	\$ 25,000.00	\$ 43,500.00
	Subtotal				\$ 23,500.00		\$ 33,000.00	\$ 56,500.00
	TOTAL CONTRACT 1 - GENERAL CONSTRUCTION WORK				\$ 1,277,890.00		\$ 1,688,710.00	\$ 2,966,600.00



**ATTACHMENT 1 - BID INFORMATION  
PROJECT ID: PWD99WNY1**

**DESCRIPTION AND LOCATION OF WORK:**

**Center for the Women of New York Renovation  
207 Totten Avenue  
Queens, NY 11359  
E-PIN: 85016B0070 / DDC PIN: 8502016HR0005C**

**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: **THURSDAY, February 2, 2017**

**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

**PRE BID QUESTIONS (PBQs):**

Please be advised that PBQs must be submitted to the Agency Contact Person at least five (5) business days (by 5:00 P.M. EST) prior to the bid opening date.

**BID OPENING:**

<b>PLACE OF BID OPENING:</b>	<b>Department of Design and Construction Contract Section 30-30 Thomson Avenue – First Floor Long Island City, NY 11101</b>
<b>DATE AND HOUR:</b>	<b>THURSDAY, FEBRUARY 2, 2017 AT 2:00 PM</b>
	<b>LATE BIDS WILL NOT BE ACCEPTED</b>

**PRE-BID WALK-THRU AND CONFERENCE:**

<b>PLACE</b>	<b>Center for the Women of New York Renovation 207 Totten Avenue Queens, NY 11359</b>
<b>DATE AND HOUR</b>	<b>THURSDAY, January 19, 2017, AT 10:00 AM</b>
<b>MANDATORY OR OPTIONAL</b>	<b>OPTIONAL</b>

**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.

- (1) Bond in an amount not less than 10% of the TOTAL BID PRICE set forth on the Bid Form, OR
- (2) Certified Check in an amount not less than 2% of the TOTAL BID PRICE set forth on the Bid Form

**PERFORMANCE AND PAYMENT SECURITY:**

Required for Contracts in the amount of \$1,000,000.00 or more. 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) 391-1016 or (718) 391-2601 Fax: (718) 391-2615

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**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: SIBA CONTRACTING CORP

DDC Project Number: PWD99WNY1

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

Company has previously worked for DDC   X   YES            NO

### 2. Type(s) of Construction Work

TYPE OF WORK	LAST 3 YEARS	THIS PROJECT
General Building Construction	<u>  X  </u>	<u>  X  </u>
Residential Building Construction	<u>          </u>	<u>          </u>
Nonresidential Building Construction	<u>  X  </u>	<u>  X  </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>  X  </u>	<u>  X  </u>
Painting and Paper Hanging	<u>          </u>	<u>          </u>
Electrical Work	<u>  X  </u>	<u>  X  </u>
Masonry, Stonework and Plastering	<u>  X  </u>	<u>  X  </u>
Carpentry and Floor Work	<u>  X  </u>	<u>  X  </u>
Roofing, Siding, and Sheet Metal	<u>  X  </u>	<u>  X  </u>
Concrete Work	<u>  X  </u>	<u>  X  </u>
Specialty Trade Contracting	<u>  X  </u>	<u>  X  </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	<u>INTRASTATE RATE</u>	<u>INTERSTATE RATE</u>
2016	0.98	0.98
2015	0.97	0.97
2014	0.98	0.98

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

**4. OSHA Information:**

YES     NO    Contractor has received a willful violation issued by OSHA or New York City Department of Buildings (NYCDOB) within the last three years.

YES     NO    Contractor has had an incident requiring OSHA notification within 8 hours (all work-related fatalities) or an incident requiring OSHA notification within 24 hours (all work-related inpatient hospitalizations, all amputations and all losses of an eye).

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

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

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

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

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

YEAR	TOTAL NUMBERS OF HOURS WORKED BY EMPLOYEES	INCIDENT RATE
2016	40/WEEK	0
2015	40/WEEK	0
2014	40/WEEK	0

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): F175FORT1, \_\_\_\_\_, \_\_\_\_\_

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: 02-02-2017

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

Title: PRESIDENT

## Pre-Award Process

The bidder is advised that as part of the pre-award review of its bid, it may be required to submit the information described in Sections (A) through (D) below. If required, 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) 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 – CONTRACTS COMPLETED BY THE BIDDER**

List all contracts substantially completed within the last 4 years, 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
Glenwood Landing Elementary School, 60 Cody Ave. Glen Head, NY	General Constr.	1,189,000.00	8/26/2016	Gabriel Divone RA 631-475-0349	
Scarsdale School District 2 Brewster Rd. Scarsdale, NY	General Constr.	287,000.00	8/31/2016	John Trenholm B&G 914-721-2441	Watsky Associates Inc. Luigi Musico 914-645-5698
Chimney Reconstruction Port Chester School District	General Constr.	141,300.00	8/20/2015	LAN Associates George 201-878-4717	
Office Renovation at Fox Meadow Scarsdale School District	General Constr.	379,800.00	8/31/2015	KG&D Architect Joe 914-666-5900	
Masonry Veneer Reconstruction Farmingdale Middle School	General Constr.	1,231,800.00	8/31/2015	H2M Architect Brett Degnan 516-756-8000	
Rehabilitation of Various Bldgs SUNY Purchase College	General Constr.	614,503.00	10/26/2015	Hoffman Architect 212-789-9915 Rober PE	
White Plains Middle School 301 Main St. White Plains, NY	General Constr.	3,297,000.00	12/2/2013	H2M Architect Philip Aliberto 516-756-8000	

**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
	No Contracts						

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

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

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

**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 required to be conducted by the Department of Investigation. The contractor shall also be required to pay the applicable required fees for any of its subcontractors for which Vendor Name Check reviews are required. The fee(s) will be deducted from payments made to the contractor under the contract. For contracts with an estimated value of less than or equal to \$1,000,000, the fee will be \$175 per Vendor Name Check review. For contracts with an estimated value of greater than \$1,000,000, the fee will be \$350 per Vendor Name Check review.

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

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

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

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

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

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

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

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

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

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

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

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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]

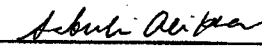
**BIDDER'S CERTIFICATION**

- 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: 02/02/2017, New York  
      , 20   

  
\_\_\_\_\_  
SIGNATURE  
IFTEKHAR HAIDER  
\_\_\_\_\_  
PRINTED NAME  
PRESIDENT  
\_\_\_\_\_  
TITLE

Sworn to before me this  
2nd day of Feb., 2017

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

Dated: 2-2-17

SABUHI ALIKHAN  
NOTARY PUBLIC-STATE OF NEW YORK  
No. 01AL6246410  
Qualified in Suffolk County  
My Commission Expires August 08, 2019

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

**PART I: CONTRACTOR/SUBCONTRACTOR INFORMATION**

7. 20-1455153 INFO@SIBACONTRACTING.COM  
Employer Identification Number or Federal Tax I.D. Email Address
8. SIBA CONTRACTING CORP  
Company Name
9. 1815 HARRISON AVE. BAY SHORE, NY 11706  
Company Address and Zip Code
10. IFTEKHAR HAIDER 631-643-1012  
Chief Operating Officer Telephone Number
11. Sabuhi Alikhan 631-643-1012  
Designated Equal Opportunity Compliance Officer Telephone Number  
(If same as Item #10, write "same")
12. SAME  
Name of Prime Contractor and Contact Person  
(If same as Item #8, write "same")

13. Number of employees in your company: 5 TO 10

14. Contract information:

- |  |   |
|--|---|
| (a) <u>Department of Design &amp; Construction</u><br>Contracting Agency (City Agency) | (b) <u>\$2,996,700.00</u><br>Contract Amount                |
| (c) <u>8502016HR0005C</u><br>Procurement Identification Number (PIN)                   | (d) <u>PWD99WNY 1</u><br>Contract Registration Number (CT#) |
| (e) <u>TBD</u><br>Projected Commencement Date  | (f) <u>TBD</u><br>Projected Completion Date                 |

(g) Description and location of proposed contract:

Center for the Women of New York Renovation at Building # 407 Totten Ave. Fort Totten Queens, NY

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 X

If yes, attach a copy of certificate.

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

If yes, attach a copy of certificate.

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

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

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

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

If yes,

(a) Name and address of OFCCP office.

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

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

Yes \_\_\_ No X

If yes, attach a copy of such certificate.

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

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

(d) Were any deficiencies found? Yes \_\_\_ No X

If yes, attach a copy of such findings.

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

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 <u>X</u> 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.

I. H Accounting

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

If yes, is the medical examination given:

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

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

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

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

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

- Minorities and Women  
 Individuals with handicaps  
 Other. Please specify \_\_\_\_\_ No
- 

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

If yes, please attach a copy of this policy.

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

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

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

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

If yes, attach a log. See instructions.

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

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

---

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

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

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SIGNATURE PAGE

I, (print name of authorized official signing) IFTEKHAR HAIDER 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.

SIBA CONTRACTING CORP

Contractor's Name

Ostap Glynsky

Account Associate

Name of person who prepared this Employment Report

Title

Iftexhar Haider

President

Name of official authorized to sign on behalf of the contractor

Title

631-643-1012

Telephone Number

*Iftexhar Haider*  
Signature of authorized official

02-02-2017

Date

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

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

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

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

Only original signatures accepted.

Sworn to before me this 2<sup>nd</sup> day of Feb. 20 17

*Sabuhi Alikhan*  
Notary Public

Authorized Signature

2-2-2017  
Date

SABUHI ALIKHAN  
NOTARY PUBLIC-STATE OF NEW YORK  
No. 01AL6246410  
Qualified in Suffolk County  
My Commission Expires August 08, 2019

**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
AMH Mechanical Contracting Inc	Asian	Complete HVAC work	WBE - HVAC CONTRACTOR	\$550,000.00
THE Wits Contracting Inc.	Asian	Carpentry, Drywall & Painting Concrete, Windows Repair	MBE - CONTRACTOR	\$350,000.00
ALL AMERICAN ELECTRICAL CORP	B: Black	Electrical Work related to the job	MBE - CONTRACTOR	\$245,000.00
Varsity Plumbing & Heating Inc.	H: Hispanic	Plumbing Work	Plumbing	\$241,624.00

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

**OWNERSHIP CODES**

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

**FORM B: PROJECTED WORKFORCE**

**TRADE CLASSIFICATION CODES**

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

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

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

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

Local Union #1



**FORM B: PROJECTED WORKFORCE**

Trade: Laborer

J: Journey Workers \_\_\_\_\_

Union Affiliation, if applicable \_\_\_\_\_

Local - 79

Total (Col. #1-10): \_\_\_\_\_

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

Total Female  
(Col. #6 - 10): \_\_\_\_\_

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

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

Local Union - 79

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

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

Local Union # 157

**FORM C: CURRENT WORKFORCE**

Trade: Painter

Union Affiliation, if applicable  
Local Union #9

Total (Col. #1-10):

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

Total Female  
(Col. #6 - 10):

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

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

Local Union #9

FMS ID: PWD99WNY1



Department of Design and Construction

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 WORK

BID

Center for the Women of New York  
Renovation

LOCATION: 207 Totten Avenue  
BOROUGH: Queens, 11359  
CITY OF NEW YORK

Contractor

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

Entered in the Comptroller's Office

First Assistant Bookkeeper

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





Department of  
Design and  
Construction

PROJECT ID: PWD99WNY1

**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](http://www.nyc.gov/buildnyc)

**VOLUME 2 OF 3**

**PROJECT LABOR AGREEMENT  
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

**Center for the Women of New York  
Renovation**

LOCATION:  
BOROUGH:  
CITY OF NEW YORK

207 Totten Avenue  
Queens, 11359

CONTRACT NO. 1

GENERAL CONSTRUCTION WORK

Department of Parks and Recreation

Page Avres Cowley Architects, LLC

Date: December 7, 2016





Department of  
Design and  
Construction

**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**

**PROJECT LABOR AGREEMENT  
INFORMATION FOR BIDDERS  
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PERFORMANCE AND PAYMENT BONDS  
SCHEDULE OF PREVAILING WAGES  
GENERAL CONDITIONS**

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



## 2015 Project Labor Agreement

### NOTICE: THIS CONTRACT IS SUBJECT TO A NEW PROJECT LABOR AGREEMENT EXECUTED IN 2015

This contract is subject to the attached Project Labor Agreement (“PLA”) entered into between the City and the Building and Construction Trades Council of Greater New York (“BCTC”) affiliated Local Unions. By submitting a bid, the Contractor agrees that if awarded the Contract the PLA is binding on the Contractor and all subcontractors of all tiers. The bidder to be awarded the contract will be required to execute the attached Letter of Assent prior to award. Contractor shall include in any subcontract a requirement that the subcontractor, and sub-subcontractors of all tiers, become signatory to and bound to the PLA with respect to the subcontracted work. Contractor will also be required to have all subcontractors of all tiers execute the attached Letter of Assent prior to such subcontractors performing any work on the Project. Bidders are advised that the City of New York and City agencies have entered into multiple PLAs. The terms of each PLA, while similar, are not identical. All bidders should carefully read the entire PLA that governs this Contract.

In addition, please note that there are significant revisions between the 2015 PLA attached to this bid and the prior Citywide Renovation PLA. The Contractor is urged to review the entire PLA. Significant changes include:

- **Micro Work Orders:** For JOCS and Requirements contracts, Task Orders or Work Orders that do not exceed \$10,000 are not subject to the PLA. See PLA Article 3, Section 1.
- **On Call Contracts:** Provisions have been added regarding the referral of workers for on call contracts where Contractors are required to respond on an expedited basis. See PLA Article 4, Section 8.
- **Grievances:** The grievance procedure governing disputes under the PLA has been clarified. See PLA Article 9, Section 1.
- **Delinquent Contractors:** Contractors and Subcontractors who do not make required payments to union funds on a timely basis are subject to requirements to submit cancelled checks or another form of proof of payment in addition to certified payroll reports when requesting payment. See PLA Article 11, Section 2.
- **Payment to Union Funds for Non-Union Workers:** Non-union Contractors with bona fide private benefit plans that satisfy the requirements of Labor Law 220 will not be required to pay into union benefit funds for "core" non-union employees (working pursuant to Article 4, Section 2 of the PLA) who are already covered under such bona fide private benefit plans. See PLA Article 11, Section 2.
- **Veterans Day:** Veterans Day has been added to the list of standard holidays. See Article 12, Section 4.
- **Reporting Pay for Weather Events:** The usual reporting pay requirement of two hours for employees who report to their work location pursuant to their regular schedule does not apply when the National Weather Service issues a Weather Advisory and the Contractor speaks to the employee at least four hours before their shift starting time. See Article 12, Section 6.



To the extent that the terms of the PLA conflict with any other terms of the invitation for bids, including the Standard Construction Contract, the terms of the PLA shall govern. For example, the PLA section that authorizes the scheduling of a four-day week, ten hours per day on straight time at the commencement of the job, PLA Article 12, section 1, overrides the Standard Construction Contract's provision concerning a five-day work week with a maximum of eight hours in a day, Standard Construction Contract Article 37.2.1. Where, however, the invitation for bids, including the Standard Construction Contract, requires the approval of the City/Department, the PLA does not supersede or eliminate that requirement.

In addition to the various provisions regarding work rules, Contractors should take special note of the requirement that Contractors and Subcontractors make payments to designated employee benefit funds. See PLA Article 11, Section 2. The PLA also contains provisions for what occurs when a Contractor or a subcontractor fails to make required payments into the benefit funds, including potentially the direct payment by the City to the benefit fund of monies owed and corresponding withholding of payments to the Contractor. See PLA Article 11, Section 2. The City strongly advises Contractors to read these provisions carefully and to include appropriate provisions in subcontracts addressing these possibilities.

This Contract is subject to the apprenticeship requirements of Labor Law §222 and to apprenticeship requirements established by the Department pursuant to Labor Law §816-b. Please be advised that the involved trades have apprenticeship programs that meet the statutory requirements of Labor Law 222(e) and the requirements set by the Department pursuant to Labor Law §816-b, Contractors and subcontractors who agree to perform the Work pursuant to the PLA are participating in such apprenticeship programs within the meaning of Labor Law §222(e) and the Department's directive.

If this Contract is subject to the Minority-Owned and Women-Owned Business Enterprise ("M/WBE") program implemented pursuant to New York City Administrative Code §6-129, the specific requirements of M/WBE participation for this Contract are set forth in Schedule B entitled the "Subcontractor Utilization Plan," and are detailed in a separate Notice to Prospective Contractors included with this bid package. If such requirements are included with this Contract, the City strongly advises Contractors to read those provisions, as well as PLA Article 4, Section 2(C), carefully. A list of certified M/WBE firms may be obtained from the Department of Small Business Services (DSBS) website at [www.nyc.gov/getcertified](http://www.nyc.gov/getcertified), by emailing DSBS at [MWBE@sbs.nyc.gov](mailto:MWBE@sbs.nyc.gov), by calling the DSBS certification hotline at (212) 513-6311, or by visiting or writing DSBS at 110 William St., 7<sup>th</sup> floor, New York, New York, 10038.

The local collective bargaining agreements (CBAs) that are incorporated into the PLA as PLA Schedule A Agreements are available on computer disk from the Department's Contract Officer upon the request of any prospective bidder. Please note that the "PLA Schedule A" is distinct from the Department's Schedule A that is a part of this invitation for bids.

A contact list for the participating unions is set forth after the FAQs.

Below are answers to frequently asked questions (FAQs) about this PLA:

1. Q. Does a Contractor need to be signatory with the unions in the NYC Building and Construction Trades Council in order to bid on projects under the PLA?  
A. No, any contractor may bid by signing and agreeing to the terms of the PLA. The contractor need not be signatory with these unions by any other labor agreement or for any other project.
2. Q. Does a Contractor agreeing to the PLA and signing the Letter of Assent create a labor agreement with these unions outside of the project covered by the PLA?  
A. No, the PLA applies only to those projects that the Contractor agrees to perform under the PLA and makes no labor agreement beyond those projects.
3. Q. Do the provisions of the PLA apply equally to subcontractors as well as contractors and how does the PLA affect the subcontractors that a bidder may utilize on the project?  
A. Yes, the PLA applies to subcontractors and all subcontractors must agree to become party to the PLA. See PLA Art. 2, Sec. 8. Subject to the Department's approval of subcontractors pursuant to Article 17 of the Standard Construction Contract, a Contractor may use any subcontractor, union or non-union, as long as the subcontractor signs and agrees to the terms of the PLA.
4. Q. Are bidders required to submit Letters of Assent signed by proposed subcontractors with their bid in order to be found responsive?  
A. No, bidders do not have to submit signed Letters of Assent from their subcontractors with their bid. Subcontractors, however, will be required to sign the Letter of Assent prior to being approved by the Department.
5. Q. May a Contractor or subcontractor use any of its existing employees to perform this work?  
A. Generally labor will be referred to the Contractor from the respective signatory local unions. See PLA Article 4. However, Contractors and subcontractors may continue to use up to 12% of their existing, qualifying labor force for this work, in accordance with the terms of PLA Article 4, Section 2B. Certified M/WBEs for which participation goals are set pursuant to NYC Administrative Code §6-129 that are not signatory to any Schedule A CBAs may use their existing employees for the 2nd, 4th, 6th and 8th employee needed on the job if their contracts are valued at or under \$500,000. For contracts valued at above \$500,000 but under \$1,000,000, such certified M/WBEs may use their own employees for the 2nd, 5th and 8th employees needed on the job in accordance with the provisions of PLA Article 4, Section 2C. If additional workers are needed by these M/WBEs, the additional workers will be referred to the Contractor from the signatory local unions subject to the Contractor's right to meet 12% of the additional needs with its existing, qualifying employees.
6. Q. Must the City set M/WBE participation goals for the particular project or contract in order for a certified M/WBE to utilize the provisions of PLA Article 4, Section 2C?  
A. No. PLA Article 4, Section 2(C) specifies what categories of M/WBEs are eligible to take advantage of this provision (i.e., those M/WBEs for which the City is

authorized to set participation goals under §6-129). For purposes of section 2(C), it is not necessary for the project to be subject to §6-129 or for the City to have actually set participation goals for the particular contract or project. The result is the same where a projects receives State funding and therefore is subject to the requirements of Article 15-A of the Executive Law.

7. **Q.** May a Contractor bring in union members from locals that are not signatory unions?  
**A.** Referrals will be from the respective signatory locals and/or locals listed in Schedule A of the PLA. Contractors may utilize 'traveler provisions' contained in the local collective bargaining agreements (local CBAs) where such provisions exist and/or in accordance with the provisions of PLA Article 4, Section 2.
8. **Q.** Does a non-union employee working under the PLA automatically become a union member?  
**A.** No, the non-union employee does not automatically become a union member by working on a project covered by the PLA. Non-union employees working under the PLA are subject to the union security provisions (i.e., union dues/agency shop fees) of the local CBAs while on the project. These employees will be enrolled in the appropriate benefit plans and earn credit toward various union benefit programs except in certain circumstances as set forth in the PLA. See PLA Article 4, Section 6 and Article 11.
9. **Q.** When will the agency shop dues payer affiliate workers become eligible for union benefits?  
**A.** Union benefit plans have their own plan documents that determine eligibility and workers will become eligible for certain benefits at different points in time. Contractors who will have agency shop dues payer affiliate workers should speak with the respective union(s) as to benefit eligibility thresholds.
10. **Q.** Are all Contractors and subcontractors working under the PLA, including non-union Contractors and Contractors signatory to collective bargaining agreements with locals other than those that are signatories to the PLA, required to make contributions to designated employee benefit funds?  
**A.** Except in certain circumstances, as described in the following paragraph, Contractors and subcontractors working under the PLA will be required to contribute on behalf of all employees covered by the PLA to established jointly trustee employee benefit funds designated in the Schedule A CBAs and required to be paid on public works under any applicable prevailing wage law. See PLA Article 11, Section 2. The Agency may withhold from amounts due the Contractor any amounts required to be paid, but not actually paid into any such fund by the Contractor or a subcontractor. See PLA Article 11, Section 2 D.

Non-union Contractors with bona fide private benefit plans that satisfy the requirements of Labor Law 220 will not be required to pay into union benefit funds for their employees working pursuant to Article 4, Section 2 (B) and (C) ("core" employees) who are already covered under their bona fide private benefit plans. Supplemental benefit funds in excess

of the annualized value of the private benefit plans will be paid to workers as additional wages in compliance with Labor Law 220. At the time of contract award, the Contractor shall make available to the contracting Agency a complete set of plan documents for each private benefit plan into which contributions will be made and/or coverage provided. The Contractor shall also provide certification from a certified public accountant as to the annualized hourly value of such benefits consistent with the requirements of Section 220. See PLA Article 11, Section 2.

11. Q. What happens if a Contractor or subcontractor fails to make a required payment to a designated employee benefit fund?

A. The PLA sets forth a process for unions to address a contractor or a subcontractor's failure to make required payments. The process includes potentially the direct payment by the City to the benefit fund of monies owed and the corresponding withholding of payments to the Contractor. See PLA Article 11, Section 2.

Upon notification by a union or fringe benefit fund that a Contractor is delinquent in its payment of benefits and a determination by the Agency that the union or fund has submitted appropriate documentation of such delinquency, the Agency will thereafter require the Contractor to submit cancelled checks or other equivalent proof of payment of benefit contributions with certified payroll reports for work covered by this PLA on which the Contractor is engaged.

The City strongly advises Contractors to read these provisions carefully and to include appropriate provisions in subcontracts addressing these possibilities.

12. Q. Does signing on to the PLA satisfy the Apprenticeship Requirements established for this bid?

A. Yes. By agreeing to perform the Work subject to the PLA, the bidder demonstrates compliance with the apprenticeship requirements imposed by this Invitation for Bids.

13. Q. Who decides on the number of workers needed?

A. Except as expressly limited by a specific provision of the PLA, a Contractor retains full and exclusive authority for the management of their operations, including the determination as to the number of employees to be hired and the qualifications therefore and the promotion, transfer, and layoff of its employees. See PLA Article 6, Section 1.

14. Q. May a contractor discharge a union referral for lack of productivity?

A. Again, except as expressly limited by a specific provision of the PLA, a Contractor retains full and exclusive authority for the management of their operations, including the right to discipline or discharge for just cause its employees. See PLA Article 6, Section 1.

15. Q. May a contractor assign a management person to site?

A. Yes. Managers are not subject to the provisions of the PLA, so there is no restriction on management and/or other non-trade personnel, as long as such personnel do not perform trade functions. See Article 3, Section 1.

16. Q. Does the PLA provide a standard work day across all the signatory trades?

A. Yes, all signatory trades will work an eight (8) hour day, Monday through Friday with a day shift at straight time as the standard work week. The PLA also permits a Contractor to schedule a four day (within Monday through Friday) work week, ten (10) hours per day at straight time if announced at the commencement of the project. See PLA Article 12, Section 1. This is an example where the terms of the PLA override provisions of the Standard Construction Contract (compare with section 37.2 of the Standard Construction Contract). The standard work week may be reduced to 35 or 37 ½ hours of work in those limited circumstances where the City states in the bid documents that the Contractor will not be given access to the site to accommodate an 8 hour day. The 8 hour, 7 ½ hour or 7 hour work day must be established at the commencement of the project and may not be altered by the Contractor.

17. Q. Does the PLA create a common holiday schedule for all the signatory trades?

A. Yes, the PLA recognizes nine (9) common holidays, including Veterans Day. See PLA Article 12, Section 4.

18. Q. Does the PLA provide for a standard policy for 'shift work' across all signatory trades?

A. Yes, second and third shifts may be worked with a standard 5% premium pay. In addition, a day shift does not have to be scheduled in order to work the second and third shifts at the 1.05 hourly pay rate. See PLA Article 12, Section 3.

19. Q. May the Contractor schedule overtime work, including work on a weekend?

A. Yes, the PLA permits the Contractor to schedule overtime work, including work on weekends. See PLA Article 12, Sections 2, 3, and 5. To the extent that the Agency's approval is required before a Contractor may schedule or be paid for overtime, that approval is still required notwithstanding the PLA language.

20. Q. Are overtime payments affected by the PLA?

A. Yes, all overtime pay incurred Monday through Saturday will be at time and one half (1 ½). There will be no stacking or pyramiding of overtime pay under any circumstances. See PLA Article 12, Section 2. Sunday and holiday overtime will be paid according to each trade's CBA.

21. Q. Are there special provisions for Saturday work when a day is 'lost' during the week due to weather, power failure or other emergency?

A. Yes, when this occurs the Contractor may schedule Saturday work at weekday rates. See PLA Article 12, Section 5.

22. Q. Does the PLA contain special provisions for the manning of Temporary Services?

A. Yes. Where temporary services are required by specific request of the Agency or construction manager, they shall be provided by the Contractor's existing employees during working hours in which a shift is scheduled for employees of the Contractor. The need for temporary services during non-working hours will be determined by the Agency or construction manager. There will be no stacking of trades on temporary services. See PLA Article 15.

23. Q. What do the workers get paid when work is terminated early in a day due to inclement weather or otherwise cut short of 8 hours?

A. The PLA provides that employees who report to work pursuant to regular schedule and not given work will be paid two hours of straight time. Work terminated early for severe weather or emergency conditions will be paid only for time actually worked. In other instances where work is terminated early, the worker will be paid for a full day. See PLA Article 12, Sections 6 and 8. The usual reporting pay requirement of two hours for employees who report to their work location pursuant to their regular schedule does not apply when the National Weather Service issues a Weather Advisory and the Contractor speaks to the employee at least four hours before their shift starting time. See PLA Article 12, Section 6.

24. Q. Should a local collective bargaining agreement of a signatory union expire during the project will a work stoppage occur on a project subject to the PLA?

A. No. All the signatory unions are bound by the 'no strike' agreement as to the PLA work. Work will continue under the PLA and the otherwise expired local CBA(s) until the new local CBA(s) are negotiated and in effect. See PLA Articles 7 and 19.

25. Q. May a Contractor working under the PLA be subject to a strike or other boycott activity by a signatory union at another site while the Contractor is a signatory to the PLA?

A. Yes. The PLA applies ONLY to work under the PLA and does not regulate labor relations at other sites even if those sites are in close proximity to PLA work.

26. Q. If a Contractor has worked under other PLAs in the New York City area, are the provisions in this PLA generally the same as the others?

A. While Project Labor Agreements often look similar to each other, and particular clauses are often used in multiple agreements, each PLA is a unique document and should be examined accordingly.

27. Q. What happens if a dispute occurs between the Contractor and an employee during the project?

A. The PLA contains a grievance and arbitration process to resolve disputes between the Contractor and the employees. See PLA Article 9.

28. Q. What happens if there is a dispute between locals as to which local gets to provide employees for a particular project or a particular aspect of a project?

A. The PLA provides for jurisdictional disputes to be resolved in accordance with the NY Plan. See PLA Article 10. A copy of the NY Plan is available upon request from the

Department. The PLA provides that work is not to be disrupted or interrupted pending the resolution of any jurisdictional dispute. The work proceeds as assigned by the Contractor until the dispute is resolved. See PLA Article 10, Section 3.

29. Q. Does the 2015 Renovation PLA contain special provisions for JOCS or task order based Contracts?

A. The PLA does not apply to Task Orders or Work Orders that do not exceed \$10,000 issued under JOCS or Requirements Contracts otherwise subject to the PLA. See PLA Article 3, Section 1.

# **NYC Project Labor Agreements**

**CONTACT INFORMATION FOR LOCAL UNIONS (Updated May 2016)**

## **BOILER MAKERS LOCAL NO. 5**

24 Van Siclen Avenue  
Floral Park, NY 11001  
Phone: (516) 326-2500  
Fax: (516) 326-3435  
Business Manager: Steve Ludwigson

## **BLASTERS, DRILLRUNNERS & MINERS LOCAL NO. 29**

43-12 Ditmars Blvd.  
Astoria, NY, 11105  
Phone: (718) 278-5800  
Business Manager: Thomas Russo

## **BRICKLAYERS LOCAL NO. 1**

4 Court Square #1  
Long Island City, NY 11101  
Phone: (718) 392-0525  
Business Manager: Jeramiah Sullivan

## **CARPENTERS DISTRICT COUNCIL**

395 Hudson Street, 9<sup>th</sup> Fl  
New York, New York 10014  
Phone: (212) 366-7500  
Fax: (212) 675-3140  
Business Manager: Joe Geiger  
John Sheehy, D.C. Rep.

## **CEMENT MASONS NO. 780**

150-50 14<sup>th</sup> Rd Suite 4  
Whitestone, NY 11357  
Phone: (718) 357-3750  
Fax: (718) 357-2057  
Business Manager: Gino Castingnoli

## **CONCRETE WORKERS DISTRICT COUNCIL NO. 16**

29-18 35<sup>th</sup> Avenue  
Long Island City, NY 11106  
Phone: (718) 392-5077  
Fax: (718) 392-5087  
Business Manager: Alex Castaldi



**DERRICKMEN & RIGGERS LOCAL 197**

35-53 24<sup>th</sup> Street

Long Island City, NY 11101

Phone: (718) 361-6534

Fax: (718) 361-6584

Business Manager: William Hayes

[Billhayes197@yahoo.com](mailto:Billhayes197@yahoo.com)

**DRYWALL TAPERS 1974**

265 West 14<sup>th</sup> Street

New York, NY 10011

Phone: (212) 242-8500

Fax: (212) 242-2356

Business Manager: Sal Marsala

**ELECTRICAL LOCAL NO. 3**

158-11 Harry Van Arsdale, Jr. Avenue

Flushing, NY 11365

Phone: (718) 591-4000

Fax: (718) 380-8998

Business Manager: Chris Erickson

Raymond Melville, Asst. Bus. Mgr.

Construction

**ELEVATOR CONSTRUCTORS NO. 1**

47-24 27<sup>th</sup> Avenue

Long Island City, NY 11101

Phone: (718) 767-7004

Fax: (718) 767-6730

Business Manager: Lenny Legotte

[llegotte@localoneiuec.com](mailto:llegotte@localoneiuec.com)

**ENGINEERS LOCAL NO. 14**

141-57 Northern Boulevard

Flushing, NY 11354

Phone: (718) 939-0600

Fax: (718) 939-3131

Business Manager: Edwin Christian

**ENGINEERS NO. 15, 15A, 15B, 15C, 15D**

44-40 11<sup>th</sup> Street

Long Island City, NY 11101

Phone: (212) 929-5327

Business Manager: Tom Callahan

**ENGINEERS NO. 30**

16-16 Whitestone Expressway  
Whitestone, NY 11357  
Phone: (718) 847-8484  
Fax: (718) 850-0524  
Business Manager: William Lynn

**ENGINEERS No. 94**

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Phone: (212) 245-7040  
Fax: (212) 245-7886  
Business Manager: Kuba Brown  
[kubabrown@local94.com](mailto:kubabrown@local94.com)

**GLAZIERS NO. 1087**

45 West 14<sup>th</sup> Street  
New York, NY 10011  
Phone: (212) 924-5200  
Fax: (212) 255-1151  
Business Manager: Steve Birmingham

**HEAT & FROST INSULATORS  
AND ALLIED WORKERS**

**LOCAL UNION NO. 12**

35-53 24<sup>th</sup> Street  
Long Island City, NY 11101  
Phone: (718) 784-3456  
Fax: (718) 784-8357  
Business Manager: Matty Aracich  
[matty@insulatorslocal12.com](mailto:matty@insulatorslocal12.com)

**HEAT & FROST INSULATORS  
LOCAL UNION NO. 12A**

1536 127<sup>th</sup> Street  
College Point, NY 11356  
Phone: (718) 886-7226  
Business Manager: Jaime Soto

**IRON WORKERS DISTRICT COUNCIL**

22 West 46<sup>th</sup> Street  
New York, NY 10036  
Phone: (212) 302-1868  
Business Manager: James Mahoney  
[jmahoney@iwintl.org](mailto:jmahoney@iwintl.org)

**IRON WORKERS NO. 40 (Manhattan, The Bronx & Staten Island)**

451 Park Avenue South

New York, NY 10016

Phone: (212) 889-1320

Fax: (212) 779-3267

Business Manager: Bob Walsh

**IRON WORKERS NO. 361 (Brooklyn & Queens)**

89-19 97<sup>th</sup> Avenue

Ozone Park, NY 11416

Phone: (718) 322-1016/17

Fax: (718) 322-1053

Business Manager: Matthew Chartrand

**LABORERS LOCAL NO. 78**

**ASBESTOS & LEAD ABATEMENT**

30 Cliff Street

New York, New York 10038

Phone: (212) 227-4803

Fax: (212) 406-1800

Business Manager: Edison Severino

**LABORERS, CONSTRUCTION AND  
GENERAL BUILDING NO. 79**

520 8<sup>th</sup> Avenue

New York, NY 10018

Phone: (212) 465-7900

Fax: (212) 465-7903

Business Manager: Michael Prohaska

**LABORERS NO. 731**

34-11 35<sup>th</sup> Avenue

Astoria, NY 11106

(718) 706-0720

Business Manager: Joseph D'Amato

**LATHERS METAL  
LOCAL NO. 46**

1322 Third Avenue

New York, NY 10021

Phone: (212) 737-0500

Fax: (212) 249-1226

Business Manager: Terrance Moore

**MASON TENDERS DIST. COUNCIL**

520 8<sup>th</sup> Avenue  
New York, NY 10018  
Phone: (212) 452-9400  
Fax: (212) 452-9499  
Business Manager: Robert Bonanza

**METAL POLISHERS**

**LOCAL UNION NO. 8A-28A**

36-18 33<sup>rd</sup> Street 2<sup>nd</sup> Fl.  
Long Island City, NY 11106  
Phone: (718) 361-1770  
Fax: (718) 361-1934  
Business Manager: Hector Lopez

**MILLWRIGHT AND MACHINERY**

**ERECTOR LOCAL NO. 740**

89-07 Atlantic Avenue  
Woodhaven, NY 11412  
Phone: (718) 849-3636  
Fax: (718) 849-0070  
Business Manager: Joseph Geiger

**ORNAMENTAL IRON WORKERS**

**NO. 580**

501 West 42<sup>nd</sup> Street  
New York, NY 10036  
Phone: (212) 594-1662  
Fax: (212) 564-2748  
Business Manager: Pete Myers

**PAINTERS DISTRICT**

**COUNCIL NO. 9**

45 West 14<sup>th</sup> Street  
New York, NY 10011  
Phone: (212) 255-2950  
Fax: (212) 255-1151  
Business Manager: Joseph Azzopardi

**PAINTERS STRUCTURAL STEEL**

**NO. 806**

40 West 27<sup>th</sup> Street  
New York, New York 10001  
Phone: (212) 447-1838/0149  
Fax: (212) 545-8386  
Business Manager: Angelo Serse

**PAVERS & ROAD BUILDERS  
DISTRICT COUNCIL NO. 1**

136-25 37<sup>th</sup> Avenue, Suite 502  
Flushing, NY 11354  
Phone: (718) 886-3310  
Business Manager: Keith Lozcalzo

**PLASTERS LOCAL UNION NO. 262**

2241 Conner Street  
Bronx, NY 10466  
Phone: (718) 547-5440  
Fax: (718) 547-5435  
Business Manager: Michael Hubler

**PLUMBERS NO. 1**

158-29 Cross Bay Boulevard  
Howard Beach, NY 11414  
Phone: (718) 738-7500  
Fax: (718) 835-0896  
Business Manager: John Murphy

**PRIVATE SANITATION  
LOCAL NO. 813**

45-18 Court Square, Suite 600  
Long Island City, NY 11101  
Phone: (718) 937-7010 ext. 244  
Fax: (718) 937-7003  
Business Manager: Sean Campbell

**ROOFERS & WATERPROOFERS NO. 8**

12-11 43<sup>rd</sup> Avenue  
Long Island City, NY 11101  
Phone: (718) 361-1169  
Fax (718) 361-8330  
Business Manager: Nick Siciliano

**SHEET METAL WORKERS  
LOCAL NO. 28**

MANHATTAN OFFICE  
500 Greenwich Street  
New York, NY 10013  
Phone: (212) 941-7700  
Fax: (212) 226-0304  
Business Manager: Kevin Connors

**SHEET METAL WORKERS  
LOCAL 137**

21-42 44<sup>th</sup> Drive  
Long Island City, NY 11101  
Phone: (718) 937-4514  
Fax: (718) 937-4113  
Business Manager: Dante Dano

**STEAMFITTERS LOCAL UNION  
NO. 638**

32-32 48<sup>th</sup> Avenue  
Long Island City, NY 11101  
Phone: (718) 392-3420  
Fax: (718) 784-7285  
Business Manager: Bob Bartels

**TEAMSTERS LOCAL UNION 282**

2500 Marcus Avenue  
Lake Success, NY 11042  
Phone: (516) 488-2822  
Fax: (516) 488-4895  
Business Manager: Tom Gesauldi

**TEAMSTERS LOCAL UNION 814**

21-42 44<sup>th</sup> Drive  
Long Island City, NY 11101  
Phone: (718) 609-6407  
Fax: (718) 361-9610  
Business Manager: Jason Ide

**TILE, MARBLE & TERRAZO B.A.C.  
LOCAL UNION 7**

45-34 Court Square  
Long Island City, NY 11101  
Phone: (718) 786-7648  
Fax: (718) 472-2370  
Business Manager: Tom Lane

**TIMBERMEN & DOCKBUILDERS LOCAL 1556**

395 Hudson Street  
New York, NY 10014  
Phone: (212) 242-1320  
Business Manager: Joseph Geiger

NYC AGENCY RENOVATION & REHAB OF CITY OWNED BUILDINGS/STRUCTURES  
PLA

**PROJECT LABOR AGREEMENT**

**COVERING SPECIFIED**

**RENOVATION & REHABILITATION  
OF CITY OWNED BUILDINGS AND STRUCTURES**

**2015 - 2018**

NYC AGENCY RENOVATION & REHAB OF CITY OWNED BUILDINGS/STRUCTURES  
PLA

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NYC AGENCY RENOVATION & REHAB CITY OWNED  
BUILDINGS/STRUCTURES PLA

PROJECT LABOR AGREEMENT COVERING SPECIFIED  
RENOVATION & REHABILITATION OF NEW YORK CITY OWNED  
FACILITIES & STRUCTURES

ARTICLE 1 - PREAMBLE

WHEREAS, the City of New York desires to provide for the cost efficient, safe, quality, and timely completion of certain rehabilitation and renovation work ("Program Work," as defined in Article 3) in a manner designed to afford the lowest costs to the Agencies covered by this Agreement, and the Public it represents, and the advancement of permissible statutory objectives;

WHEREAS, this Project Labor Agreement will foster the achievement of these goals, inter alia, by:

(1) providing a mechanism for responding to the unique construction needs associated with this Program Work and achieving the most cost effective means of construction, including direct labor cost savings, by the Building and Construction Trades Council of Greater New York and Vicinity and the signatory Local Unions and their members waiving various shift and other hourly premiums and other work and pay practices which would otherwise apply to Program Work;

(2) expediting the construction process and otherwise minimizing the disruption to the covered Agencies' ongoing operations at the facilities that are the subject of the Agreement;

(3) avoiding the costly delays of potential strikes, slowdowns, walkouts, picketing and other disruptions arising from work disputes, reducing jobsite friction on common situs worksites, and promoting labor harmony and peace for the duration of the Program Work;

(4) standardizing the terms and conditions governing the employment of labor on Program Work;

(5) permitting wide flexibility in work scheduling and shift hours and times to allow maximum work to be done during off hours yet at affordable pay rates;

NYC AGENCY RENOVATION & REHAB CITY OWNED  
BUILDINGS/STRUCTURES PLA

- (6) permitting adjustments to work rules and staffing requirements from those which otherwise might obtain;
- (7) providing comprehensive and standardized mechanisms for the settlement of work disputes, including those relating to jurisdiction;
- (8) ensuring a reliable source of skilled and experienced labor; and
- (9) securing applicable New York State Labor Law exemptions.

WHEREAS, the Building and Construction Trades Council of Greater New York and Vicinity, its participating affiliated Local Unions and their members, desire to assist the City in meeting these operational needs and objectives as well as to provide for stability, security and work opportunities which are afforded by this Project Labor Agreement; and

WHEREAS, the Parties desire to maximize Program Work safety conditions for both workers and the community in the project area.

NOW, THEREFORE, the Parties enter into this Agreement:

**SECTION 1. PARTIES TO THE AGREEMENT**

This is a Project Labor Agreement (“Agreement”) entered into by the City of New York, on behalf of itself and the Agencies covered herein, including in their capacity as construction manager of covered projects and/or on behalf of any third party construction manager which may be utilized, and the Building and Construction Trades Council of Greater New York and Vicinity (“Council”) (on behalf of itself) and the signatory affiliated Local Union’s (“Unions” or “Local Unions”). The Council and each signatory Local Union hereby warrants and represents that it has been duly authorized to enter into this Agreement.

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ARTICLE 2 - GENERAL CONDITIONS

SECTION 1. DEFINITIONS

Throughout this Agreement, the various Union parties including the Building and Construction Trades Council of Greater New York and Vicinity and its participating affiliated Local Unions, are referred to singularly and collectively as "Union(s)" or "Local Unions"; the term "Contractor(s)" shall include any Construction Manager, General Contractor and all other contractors, and subcontractors of all tiers engaged in Program Work within the scope of this Agreement as defined in Article 3; "Agency" means the following New York City agencies: the Department for the Aging (DFTA), Administration for Children's Services (ACS), Department of Citywide Administrative Services (DCAS), Department of Correction (DOC), Department of Design and Construction (DDC), Fire Department (FDNY), Department of Homeless Services (DHS), Human Resources Administration (HRA), Department of Health and Mental Hygiene (DOHMH), Department of Parks and Recreation (DPR), Police Department (NYPD); Department of Sanitation (DSNY); the New York City Agency that awards a particular contract subject to this Agreement may be referred to hereafter as the "Agency"; when an Agency acts as Construction Manager, unless otherwise provided, it has the rights and obligations of a "Construction Manager" in addition to the rights and obligations of an Agency; the Building and Construction Trades Council of Greater New York and Vicinity is referred to as the ["BCTC" or "Council"]; and the work covered by this Agreement (as defined in Article 3) is referred to as "Program Work."

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**SECTION 2. CONDITIONS FOR AGREEMENT TO BECOME EFFECTIVE**

This Agreement shall not become effective unless each of the following conditions are met: the Agreement is executed by (1) the Council, on behalf of itself, (2) the participating affiliated Local Unions; and (3) the mayor of the City of New York or his designee.

**SECTION 3. ENTITIES BOUND & ADMINISTRATION OF AGREEMENT**

This Agreement shall be binding on all participating Unions and their affiliates, the Construction Manager (in its capacity as such) and all Contractors of all tiers performing Program Work, as defined in Article 3. The Contractors shall include in any subcontract that they let for performance during the term of this Agreement a requirement that their subcontractors, of all tiers, become signatory and bound by this Agreement with respect to that subcontracted work falling within the scope of Article 3 and all Contractors (including subcontractors) performing Program Work shall be required to sign a "Letter of Assent" in the form annexed hereto as Exhibit "A". This Agreement shall be administered by the applicable Agency or a Construction Manager or such other designee as may be named by the Agency or Construction Manager, on behalf of all Contractors.

**SECTION 4. SUPREMACY CLAUSE**

This Agreement, together with the local Collective Bargaining Agreements appended hereto as Schedule A, represents the complete understanding of all signatories and supersedes any national agreement, local agreement or other collective bargaining agreement of any type which would otherwise apply to this Program Work, in whole or in part, except that Program Work which falls within the jurisdiction of the Operating



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Engineers Locals 14 and 15 will be performed under the terms and conditions set out in the Schedule A agreements of Operating Engineers Locals 14 and 15. The Collective Bargaining Agreements of the affiliated local unions that cover the particular type of construction work to be performed by the contractor, and as set forth in the Schedule A list of Agreements, shall be deemed the Schedule A Collective Bargaining Agreements ("Schedule A CBA") under this Agreement. Where association and independent Collective Bargaining Agreements for a particular type of construction work are both set forth in Schedule A, association members shall treat the applicable association agreement as the Schedule A CBA and independent contractors shall treat the applicable independent agreement as the Schedule A CBA. Subject to the foregoing, where a subject covered by the provisions of this Agreement is also covered by a Schedule A Collective Bargaining Agreement, the provisions of this Agreement shall prevail. It is further understood that no Contractor shall be required to sign any other agreement as a condition of performing Program Work. No practice, understanding or agreement between a Contractor and a Local Union which is not set forth in this Agreement shall be binding on this Program Work unless endorsed in writing by the Construction Manager or such other designee as may be designated by the Agency.

**SECTION 5. LIABILITY**

The liability of any Contractor and the liability of any Union under this Agreement shall be several and not joint. The Construction Manager and any Contractor shall not be liable for any violations of this Agreement by any other Contractor; and the

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Council and Local Unions shall not be liable for any violations of this Agreement by any other Union.

**SECTION 6. THE AGENCY**

The Agency (or Construction Manager where applicable) shall require in its bid specifications for all Program Work within the scope of Article 3 that all successful bidders, and their subcontractors of all tiers, become bound by, and signatory to, this Agreement. The Agency (or Construction Manager) shall not be liable for any violation of this Agreement by any Contractor. It is understood that nothing in this Agreement shall be construed as limiting the sole discretion of the Agency or Construction Manager in determining which Contractors shall be awarded contracts for Program Work. It is further understood that the Agency or Construction Manager has sole discretion at any time to terminate, delay or suspend the Program Work, in whole or part, on any Program.

**SECTION 7. AVAILABILITY AND APPLICABILITY  
TO ALL SUCCESSFUL BIDDERS**

The Unions agree that this Agreement will be made available to, and will fully apply to, any successful bidder for (or subcontractor of) Program Work who becomes signatory thereto, without regard to whether that successful bidder (or subcontractor) performs work at other sites on either a union or non-union basis and without regard to whether employees of such successful bidder (or subcontractor) are, or are not, members of any unions. This Agreement shall not apply to the work of any Contractor which is performed at any location other than the site of Program Work.

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**SECTION 8. SUBCONTRACTING**

Contractors will subcontract Program Work only to a person, firm or corporation who is or agrees to become party to this Agreement.

**ARTICLE 3-SCOPE OF THE AGREEMENT**

**SECTION 1. WORK COVERED**

Program Work shall be limited to designated rehabilitation and renovation construction contracts bid and let by an Agency (or its Construction Manager where applicable) after the effective date of this Agreement with respect to rehabilitation and renovation work performed for an Agency on City-owned property under contracts let prior to December 31, 2018. Subject to the foregoing, and the exclusions below, such Program Work shall mean any and all contracts that predominantly involve the renovation, repair, alteration, rehabilitation or expansion of an existing City-owned building or structure within the five boroughs of New York City. Examples of Program Work include, but are not limited to, the renovation, repair, alteration and rehabilitation of an existing temporary or permanent structure, or an expansion of above ground structures located in the City on a City-owned building. This Program Work shall also include JOCS contracts, demolition work, site work, asbestos and lead abatement, painting services, carpentry services, and carpet removal and installation, to the extent incidental to such building rehabilitation of City-owned buildings or structures.

It is understood that, except where the City specifically applies this Project Labor Agreement to such work in its bid documents, Program Work does not include, and this Project Labor Agreement shall not apply to, any other work, including:

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1. Contracts let and work performed in connection with projects carried over, recycled from, or performed under bids or rebids relating to work that were bid prior to the effective date of this Agreement or after December 31, 2018;
2. Contracts procured on an emergency basis;
3. Contracts that do not exceed \$250,000;
4. Contracts for work on streets and bridges and for the closing or environmental remediation of landfills;
5. ~~Contracts with not-for-profit corporations where the City is not awarding or performing the work performed for that entity;~~
6. Contracts with governmental entities where the City is not awarding or performing the work performed for that entity;
7. Contracts with electric utilities, gas utilities, telephone companies, and railroads, except that it is understood and agreed that these entities may only install their work to a demarcation point, e.g. a telephone closet or utility vault, the location of which is determined prior to construction and employees of such entities shall not be used to replace employees performing Program Work pursuant to this agreement;
8. Contracts for installation of information technology that are not otherwise Program Work;
9. Task Orders or Work Orders issued under JOCS or Requirements Contracts that do not exceed \$10,000, and JOCS or Requirements Contracts where the monetary value of such contracts predominantly involves such Task Orders or Work

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Orders; and

10. Contracts that do not exceed \$1 Million that are awarded pursuant to prequalified lists (PQLs) established by City agencies where entry on to the PQL is restricted to MWBEs, or a combination of MWBEs together with joint ventures which include at least one MWBE, or contractors who agree to subcontract at least 50% of the contract to MWBEs.

**SECTION 2. TIME LIMITATIONS**

In addition to falling within the scope of Article 3, Section 1, to be covered by this Agreement Program Work must be (1) advertised and let for bid after the effective date of this Agreement, and (2) let for bid prior to December 31, 2018, the expiration date of this Agreement. It is understood that this Agreement, together with all of its provisions, shall remain in effect for all such Program Work until completion, even if not completed by the expiration date of the Agreement. If Program Work otherwise falling within the scope of Article 3, Section 1 is not let for bid by the expiration date of this Agreement, this Agreement may be extended to that work by mutual agreement of the parties.

**SECTION 3. EXCLUDED EMPLOYEES**

The following persons are not subject to the provisions of this Agreement, even though performing Program Work:

A. Superintendents, supervisors (excluding general and forepersons specifically covered by a craft's Schedule A), engineers, professional engineers and/or licensed architects engaged in inspection and testing, quality control/assurance personnel, timekeepers, mail carriers, clerks, office workers, messengers, guards, technicians,

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non-manual employees, and all professional, engineering, administrative and management persons;

B. Employees of the Agency, New York City, or any other municipal or State agency, authority or entity, or employees of any other public employer, even though working on the Program site while covered Program Work is underway;

C. Employees and entities engaged in off-site manufacture, modifications, repair, maintenance, assembly, painting, handling or fabrication of project components, materials, equipment or machinery or involved in deliveries to and from the Program site, except to the extent they are lawfully included in the bargaining unit of a Schedule A agreement;

D. Employees of the Construction Manager (except that in the event the Agency engages a Contractor to serve as Construction Manager, then those employees of the Construction Manager performing manual, on site construction labor will be covered by this Agreement);

E. Employees engaged in on-site equipment warranty work unless employees are already working on the site and are certified to perform warranty work;

F. Employees engaged in geophysical testing other than boring for core samples;

G. Employees engaged in laboratory, specialty testing, or inspections, pursuant to a professional services agreement between the Agency, or any of the Agency's

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other professional consultants, and such laboratory, testing, inspection or surveying firm;  
and

H. Employees engaged in on-site maintenance of installed equipment or systems which maintenance is awarded as part of a contract that includes Program Work but which maintenance occurs after installation of such equipment or system and is not directly related to construction services.

**SECTION 4. NON-APPLICATION TO CERTAIN ENTITIES**

This Agreement shall not apply to those parents, affiliates, subsidiaries, or other joint or sole ventures of any Contractor which do not perform Program Work. It is agreed that this Agreement does not have the effect of creating any joint employment, single employer or alter ego status among the Agency (including in its capacity as Construction Manager) or any Contractor. The Agreement shall further not apply to any New York City or other municipal or State agency, authority, or entity other than a listed Agency and nothing contained herein shall be construed to prohibit or restrict the Agency or its employees, or any State, New York City or other municipal or State authority, agency or entity and its employees, from performing on or off-site work related to Program Work.

As the contracts involving Program Work are completed and accepted, the Agreement shall not have further force or effect on such items or areas except where inspections, additions, repairs, modifications, check-out and/or warranty work are assigned in writing (copy to Local Union involved) by the Agency (or Construction Manager) for performance under the terms of this Agreement.

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ARTICLE 4- UNION RECOGNITION AND EMPLOYMENT

SECTION 1. PRE-HIRE RECOGNITION

The Contractors recognize the signatory Unions as the sole and exclusive bargaining representatives of all employees who are performing on-site Program Work, with respect to that work.

SECTION 2. UNION REFERRAL

A. The Contractors agree to employ and hire craft employees for Program Work covered by this Agreement through the job referral systems and hiring halls established in the Local Unions area collective bargaining agreements. Notwithstanding this, Contractors shall have sole right to determine the competency of all referrals; to determine the number of employees required; to select employees for layoff (subject to Article 5, Section 3); and the sole right to reject any applicant referred by a Local Union, subject to the show-up payments. In the event that a Local Union is unable to fill any request for qualified employees within a 48 hour period after such requisition is made by a Contractor (Saturdays, Sundays and holidays excepted), a Contractor may employ qualified applicants from any other available source. In the event that the Local Union does not have a job referral system, the Contractor shall give the Local Union first preference to refer applicants, subject to the other provisions of this Article. The Contractor shall notify the Local Union of craft employees hired for Program Work within its jurisdiction from any source other than referral by the Union.



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B. A Contractor may request by name, and the Local will honor, referral of persons who have applied to the Local for Program Work and who meet the following qualifications:

- (1) possess any license required by New York State law for the Program Work to be performed;
- (2) have worked a total of at least 1000 hours in the Construction field during the prior 3 years; and
- (3) were on the Contractor's active payroll for at least 60 out of the 180 calendar days prior to the contract award.

No more than twelve per centum (12%) of the employees covered by this Agreement, per Contractor by craft, shall be hired through the special provisions above. Under this provision, name referrals begin with the eighth employee needed and continue on that same basis.

C. Notwithstanding Section 2(B), above, certified MWBE contractors for which participation goals are set forth in New York City Administrative Code §6-129, that are not signatory to any Schedule A CBAs, with contracts valued at or under five hundred thousand (\$500,000), may request by name, and the Local will honor, referral of the second (2<sup>nd</sup>), fourth (4<sup>th</sup>), sixth (6<sup>th</sup>), and eighth (8<sup>th</sup>) employee, who have applied to the Local for Program Work and who meet the following qualifications:

- (1) possess any license required by New York State law for the Program Work to be performed;
- (2) have worked a total of at least 1000 hours in the Construction field during the prior 3 years; and
- (3) were on the Contractor's active payroll for at least 60 out of the 180 work days prior to the contract award.

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For such contracts valued at above \$500,000 but less than \$1 million, the Local will honor referrals by name of the second (2<sup>nd</sup>), fifth (5<sup>th</sup>), and eighth (8<sup>th</sup>) employee subject to the foregoing requirements. In both cases, name referrals will thereafter be in accordance with Section 2(B), above.

D. Where a certified MWBE Contractor voluntarily enters into a Collective Bargaining Agreement ("CBA") with a BCTC Union, the employees of such Contractor at the time the CBA is executed shall be allowed to join the Union for the applicable trade subject to satisfying the Union's basic standards of proficiency for admission.

**SECTION 3. NON-DISCRIMINATION IN REFERRALS**

The Council represents that each Local Union hiring hall and referral system will be operated in a non-discriminatory manner and in full compliance with all applicable federal, state and local laws and regulations which require equal employment opportunities. Referrals shall not be affected in any way by the rules, regulations, bylaws, constitutional provisions or any other aspects or obligations of union membership, policies or requirements and shall be subject to such other conditions as are established in this Article. No employment applicant shall be discriminated against by any referral system or hiring hall because of the applicant's union membership, or lack thereof.

**SECTION 4: MINORITY, FEMALE, LOCAL AND SECTION 3 REFERRALS**

In the event a Local Union either fails, or is unable to refer qualified minority or female applicants in percentages equaling the workforce participation goals adopted by the City and set forth in the Agency's (or, if applicable, Construction Manager's) bid

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specifications, within 48 hours of the request for same, the Contractor may employ qualified minority or female applicants from any other available source.

In the event that the City or a City agency determines to adopt local workforce participation goals to be set forth in an Agency's (or, if applicable Construction Manager's) bid specifications, the City and BCTC will work together to seek agreement on appropriate goals to be set forth in applicable bid documents and to be subject to the provisions of this section.

For any Program Work that may become subject to requirements under Section 3 of the Housing and Urban Development Act of 1968, as amended by the Housing and Community Development Act of 1992, and any rules, including new or revised rules, that may be published thereunder, the Local Unions will acknowledge the Section 3 obligations of the Construction Manager or Contractor, as applicable, and agree to negotiate a method to implement this Article in a manner that would allow the Construction Manager or Contractor to meet its Section 3 obligations to the greatest extent feasible, and to post any required notices in the manner required by Section 3. The parties also acknowledge that the Construction Manager and Contractor may also fulfill its Section 3 requirements on Program Work by promoting opportunities for excluded employees, as defined by Article 3, Section 3 of this Agreement, on Program Work and, to the extent permitted by Section 3, by promoting opportunities for craft and other employees on non-Program Work.

**SECTION 5. CROSS AND QUALIFIED REFERRALS**

The Local Unions shall not knowingly refer to a Contractor an employee then employed by another Contractor working under this Agreement. The Local Unions

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will exert their utmost efforts to recruit sufficient numbers of skilled and qualified crafts employees to fulfill the requirements of the Contractor.

**SECTION 6. UNION DUES**

All employees covered by this Agreement shall be subject to the union security provisions contained in the applicable Schedule A local agreements, as amended from time to time, but only for the period of time during which they are performing on-site Program Work and only to the extent of tendering payment of the applicable union dues and assessments uniformly required for union membership in the Local Unions which represent the craft in which the employee is performing Program Work. No employee shall be discriminated against at any Program Work site because of the employee's union membership or lack thereof. In the case of unaffiliated employees, the dues payment will be received by the Local Unions as an agency shop fee.

**SECTION 7. CRAFT FOREPERSONS AND GENERAL FOREPERSONS**

The selection of craft forepersons and/or general forepersons and the number of forepersons required shall be solely the responsibility of the Contractor except where otherwise provided by specific provisions of an applicable Schedule A, and provided that all craft forepersons shall be experienced and qualified journeypersons in their trade as determined by the appropriate Local Union. All forepersons shall take orders exclusively from the designated Contractor representatives. Craft forepersons shall be designated as working forepersons at the request of the Contractor, except when an existing local Collective Bargaining Agreement prohibits a foreperson from working when the craft persons he is leading exceed a specified number.

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SECTION 8. ON CALL REPAIR REFERRALS

A. When an Agency awards a contract that requires the Contractor to have employees available on short notice to make time sensitive repairs with such contract requiring the Contractor to respond within as little as two hours from the time the Contractor is contacted by the Agency ("On Call, Repair Contract"), the Contractor will, within ten (10) days of being awarded an On Call, Repair Contract subject to this Agreement, notify the appropriate affiliated Union that it has been awarded such a contract and immediately enter into good faith negotiations with such relevant affiliated Union to establish a procedure to receive time sensitive referrals from such affiliated Union(s).

B. In the event the Contractor and the relevant affiliated Union(s) are unable to negotiate a specific, mutually agreeable procedure for on call repair referral procedure within twenty (20) days of commencement of negotiations or prior to commencement of performance of the contract, whichever is earlier, the Contractor and the relevant affiliated Unions will follow the following procedure:

1. Upon notification by a Contractor that it has been awarded an On Call Repair Contract pursuant to paragraph A above, each relevant affiliate Union shall provide the Contractor with the name and twenty four (24) hour contact information of an On Call, Repair Contract contact person for urgent on call repair referrals.

2. The relevant affiliated Unions shall prepare a list of individuals eligible and prepared for referral on an immediate basis to respond to the on call repair contractor. Such list shall be provided to and in the possession of the designated on call repair contact person for the affiliated Union and available for immediate reference.

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3. Individuals on such list must be able to comply with the Contractor's response time pursuant to contract requirements.

4. The Union's On Call, Repair Contract contact person shall respond to a contractor's request for referrals within a reasonable time of the request so that compliance with the contract shall be possible.

C. In the event that the Contractor makes a request for an on call referral that is compliant with this procedure and a Union is not able to respond to the request, that Union will be deemed to have waived the forty-eight (48) hour referral rule contained in Section 2 above and the Contractor may employ qualified applicants from any other available source that can meet contract requirements for that time sensitive on call repair work only; provided, however, that any work related to the repair work that is not of a time sensitive nature under the contract shall comply with Section 2. If a Union fails to timely refer a worker and the Contractor employs other workers, the Contractor will e-mail the agency within 72 hours and the agency will forward that e-mail to the designated Labor Management Committee contacts.

**ARTICLE 5- UNION REPRESENTATION**

**SECTION 1. LOCAL UNION REPRESENTATIVE**

Each Local Union representing on-site employees shall be entitled to designate in writing (copy to Contractor involved and Construction Manager) one representative, and/or the Business Manager, who shall be afforded access to the Program Work site during such time as bargaining unit work is occurring and subject to otherwise applicable policies pertaining to visitors to the site.

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**SECTION 2. STEWARDS**

A. Each Affiliated Union shall have the sole discretion to designate any journey person as a Steward and an alternate Steward. The Union shall notify the Owner and/or Construction Manager as well as the Contractor of the identity of the designated Steward (and alternate) prior to the assumption of such duties. Stewards shall not exercise supervisory functions and will receive the regular rate of pay for their craft classifications. All Stewards shall be working Stewards.

B. In addition to their work as an employee, the Steward shall have the right to receive complaints or grievances and to discuss and assist in their adjustment with the Contractor's appropriate supervisor. Each Steward shall be concerned with the employees of the Steward's trade and, if applicable, subcontractors of their Contractor, but not with the employees of any other trade Contractor. No Contractor shall discriminate against the Steward in the proper performance of Union duties.

C. The Stewards shall not have the right to determine when overtime shall be worked, or who shall work overtime except pursuant to a Schedule A provision providing procedures for the equitable distribution of overtime.

**SECTION 3. LAYOFF OF A STEWARD**

Contractors agree to notify the appropriate Union 24 hours prior to the layoff of a Steward, except in cases of discipline or discharge for just cause. If a Steward is protected against layoff by a Schedule A provision, such provision shall be recognized to the extent the Steward possesses the necessary qualifications to perform the work required.

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In any case in which a Steward is discharged or disciplined for just cause, the Local Union involved shall be notified immediately by the Contractor.

**ARTICLE 6- MANAGEMENT'S RIGHTS**

**SECTION 1. RESERVATION OF RIGHTS**

Except as expressly limited by a specific provision of this Agreement, Contractors retain full and exclusive authority for the management of their operations including, but not limited to, the right to: direct the work force, including determination as to the number of employees to be hired and the qualifications therefore; the promotion, transfer, layoff of its employees, require compliance with the directives of the Agency including standard restrictions related to security and access to the site that are equally applicable to Agency employees, guests, or vendors; or the discipline or discharge for just cause of its employees; assign and schedule work; promulgate reasonable Program Work rules that are not inconsistent with this Agreement or rules common in the industry and are reasonably related to the nature of work; and, the requirement, timing and number of employees to be utilized for overtime work. No rules, customs, or practices which limit or restrict productivity or efficiency of the individual, as determined by the Contractor, Agency and/or Construction Manager and/or joint working efforts with other employees shall be permitted or observed.

**SECTION 2. MATERIALS, METHODS & EQUIPMENT**

There shall be no limitation or restriction upon the Contractor's choice of materials, techniques, methods, technology or design, or, regardless of source or location, upon the use and installation of equipment, machinery, package units, pre-cast,



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pre-fabricated, pre-finished, or pre-assembled materials or products, tools, or other labor-saving devices. Contractors may, without restriction, install or use materials, supplies or equipment regardless of their source; provided, however, that where there is a Schedule "A" that includes a lawful union standards and practices clauses, then such clause as set forth in Schedule A Agreements will be complied with, unless there is a lawful Agency specification (or specification issued by a Construction Manager which would be lawful if issued by the Agency directly) that would specifically limit or restrict the Contractor's choice of materials, techniques, methods, technology or design, or, regardless of source or location, upon the use and installation of equipment, machinery, package units, pre-cast, pre-fabricated, pre-finished, or pre-assembled materials or products, tools, or other labor-saving devices, and which would prevent compliance with such Schedule A clause. The on-site installation or application of such items shall be performed by the craft having jurisdiction over such work; provided, however, it is recognized that other personnel having special qualifications may participate, in a supervisory capacity, in the installation, check-off or testing of specialized or unusual equipment or facilities as designated by the Contractor. There shall be no restrictions as to work which is performed off-site for Program Work.

**ARTICLE 7- WORK STOPPAGES AND LOCKOUTS**

**SECTION 1. NO STRIKES-NO LOCK OUT**

There shall be no strikes, sympathy strikes, picketing, work stoppages, slowdowns, hand billing, demonstrations or other disruptive activity at the Program Work site for any reason by any Union or employee against any Contractor or employer. There

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shall be no other Union, or concerted or employee activity which disrupts or interferes with the operation of the Program Work or the objectives of the Agency at any Program Work site. In addition, failure of any Union or employee to cross any picket line established by any Union, signatory or non-signatory to this Agreement, or the picket or demonstration line of any other organization, at or in proximity to a Program Work site where the failure to cross disrupts or interferes with the operation of Program Work is a violation of this Article. Should any employees breach this provision, the Unions will use their best efforts to try to immediately end that breach and return all employees to work. There shall be no lockout at a Program Work site by any signatory Contractor, Agency or Construction Manager.

**SECTION 2. DISCHARGE FOR VIOLATION**

A Contractor may discharge any employee violating Section 1, above, and any such employee will not be eligible thereafter for referral under this Agreement for a period of 100 days.

**SECTION 3. NOTIFICATION**

If a Contractor contends that any Union has violated this Article, it will notify the Local Union involved advising of such fact, with copies of the notification to the Council. The Local Union shall instruct and order, the Council shall request, and each shall otherwise use their best efforts to cause, the employees (and where necessary the Council shall use its best efforts to cause the Local Union), to immediately cease and desist from any violation of this Article. If the Council complies with these obligations it shall not be liable for the unauthorized acts of a Local Union or its members. Similarly, a Local Union

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and its members will not be liable for any unauthorized acts of the Council. Failure of a Contractor or the Construction Manager to give any notification set forth in this Article shall not excuse any violation of Section 1 of this Article.

**SECTION 4. EXPEDITED ARBITRATION**

Any Contractor or Union alleging a violation of Section 1 of this Article may utilize the expedited procedure set forth below (in lieu of, or in addition to, any actions at law or equity) that may be brought.

A. A party invoking this procedure shall notify J.J. Pierson or Richard Adelman; who shall alternate (beginning with Arbitrator J.J. Pierson) as Arbitrator under this expedited arbitration procedure. If the Arbitrator next on the list is not available to hear the matter within 24 hours of notice, the next Arbitrator on the list shall be called. Copies of such notification will be simultaneously sent to the alleged violator and Council.

B. The Arbitrator shall thereupon, after notice as to time and place to the Contractor, the Local Union involved, the Council and the Construction Manager, hold a hearing within 48 hours of receipt of the notice invoking the procedure if it is contended that the violation still exists. The hearing will not, however, be scheduled for less than 24 hours after the notice required by Section 3, above.

C. All notices pursuant to this Article may be provided by telephone, telegraph, hand delivery, or fax, confirmed by overnight delivery, to the Arbitrator, Contractor, Construction Manager and Local Union involved. The hearing may be held on any day including Saturdays or Sundays. The hearing shall be completed in one session, which shall not exceed 8 hours duration (no more than 4 hours being allowed to either side

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to present their case, and conduct their cross examination) unless otherwise agreed. A failure of any Union or Contractor to attend the hearing shall not delay the hearing of evidence by those present or the issuance of an award by the Arbitrator.

D. The sole issue at the hearing shall be whether a violation of Section 1, above, occurred. If a violation is found to have occurred, the Arbitrator shall issue a Cease and Desist Award restraining such violation and serve copies on the Contractor and Union involved. The Arbitrator shall have no authority to consider any matter in justification, explanation or mitigation of such violation or to award damages (any damages issue is reserved solely for court proceedings, if any.) The Award shall be issued in writing within 3 hours after the close of the hearing, and may be issued without an Opinion. If any involved party desires an Opinion, one shall be issued within 15 calendar days, but its issuance shall not delay compliance with, or enforcement of, the Award.

E. The Agency and Construction Manager (or such other designee of the Agency) may participate in full in all proceedings under this Article.

F. An Award issued under this procedure may be enforced by any court of competent jurisdiction upon the filing of this Agreement together with the Award. Notice of the filing of such enforcement proceedings shall be given to the Union or Contractor involved, and the Construction Manager.

G. Any rights created by statute or law governing arbitration proceedings which are inconsistent with the procedure set forth in this Article, or which interfere with compliance thereto, are hereby waived by the Contractors and Unions to whom they accrue.

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H. The fees and expenses of the Arbitrator shall be equally divided between the involved Contractor and Union.

**SECTION 5. ARBITRATION OF DISCHARGES FOR VIOLATION**

Procedures contained in Article 9 shall not be applicable to any alleged violation of this Article, with the single exception that an employee discharged for violation of Section 1, above, may have recourse to the procedures of Article 9 to determine only if the employee did, in fact, violate the provisions of Section 1 of this Article; but not for the purpose of modifying the discipline imposed where a violation is found to have occurred.

**ARTICLE 8 - LABOR MANAGEMENT COMMITTEE**

**SECTION 1. SUBJECTS**

The Program Labor Management Committee will meet on a regular basis to: 1) promote harmonious relations among the Contractors and Unions; 2) enhance safety awareness, cost effectiveness and productivity of construction operations; 3) protect the public interests; 4) discuss matters relating to staffing and scheduling with safety and productivity as considerations; and 5) review efforts to meet applicable participation goals for MWBEs and workforce participation goals for minority and female employees.

**SECTION 2. COMPOSITION**

The Committee shall be jointly chaired by a designee of the Agency and the President of the Council. It may include representatives of the Local Unions and Contractors involved in the issues being discussed. The parties may mutually designate an

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MWBE representative to participate in appropriate Committee discussions. The Committee may conduct business through mutually agreed upon sub-committees.

**ARTICLE 9- GRIEVANCE & ARBITRATION PROCEDURE**

**SECTION 1. PROCEDURE FOR RESOLUTION OF GRIEVANCES**

Any question, dispute or claim arising out of, or involving the interpretation or application of this Agreement (other than jurisdictional disputes or alleged violations of Article 7, Section 1) shall be considered a grievance and shall be resolved pursuant to the exclusive procedure of the steps described below, provided, in all cases, that the question, dispute or claim arose during the term of this Agreement. Grievances shall include the City contract number and the Program Work address; such information is posted at the Program Work Site if already commenced, and is available in the City Record and Notice to Proceed for projects not already commenced.

Grievances as to whether a scope of work is included or excluded from this Agreement shall be submitted to the Labor Management Committee (LMC) in the first instance rather than Step 1 below. To be timely, such notice must be given no later than ten days prior to a bid opening if the grievance is challenging a determination by an Agency that the contract is not subject to this Agreement. For other grievances as to contractor scope of work issues, notice of such challenges shall be submitted to the LMC within 7 calendar days after the act, occurrence or event giving rise to the grievance. If the scope of work grievance is not resolved within 21 days of its submission to the LMC, then the grievance may proceed directly to Step 3 below.

**Step 1:**

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(a) When any employee covered by this Agreement feels aggrieved by a claimed violation of this Agreement, the employee shall, through the Local Union business representative or job steward give notice of the claimed violation to the work site representative of the involved Contractor and the Construction Manager. To be timely, such notice of the grievance must be given within 7 calendar days after the act, occurrence or event giving rise to the grievance. The business representative of the Local Union or the job steward and the work site representative of the involved Contractor shall meet and endeavor to adjust the matter within 7 calendar days after timely notice has been given. If they fail to resolve the matter within the prescribed period, the grieving party, may, within 7 calendar days thereafter, pursue Step 2 of the grievance procedure by serving the involved Contractor with written copies of the grievance setting forth a description of the claimed violation; the date on which the grievance occurred, and the provisions of the Agreement alleged to have been violated. Grievances and disputes settled at Step 1 are non-precedential except as to the specific Local Union, employee and Contractor directly involved unless the settlement is accepted in writing by the Construction Manager (or designee) as creating a precedent.

(b) Should any signatory to this Agreement have a dispute (excepting jurisdictional disputes or alleged violations of Article 7, Section 1) with any other signatory to this Agreement and, if after conferring, a settlement is not reached within 7 calendar days, the dispute shall be reduced to writing and proceed to Step 2 in the same manner as outlined in subparagraph (a) for the adjustment of employee grievances.

**Step 2:**

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A Step 2 grievance shall be filed with the Agency, the BCTC, the Contractor, and, if the grievance is against a subcontractor, the subcontractor. The Business Manager or designee of the involved Local Union, together with representatives of the involved Contractor, Council, the Construction Manager (or designee), and, if the grievance is against a subcontractor, the subcontractor, shall meet in Step 2 within 7 calendar days of service of the written grievance to arrive at a satisfactory settlement. The BCTC shall schedule the Step 2 meeting.

**Step 3:**

(a) If the grievance shall have been submitted but not resolved in Step 2, any of the participating Step 2 entities may, within 21 calendar days after the initial Step 2 meeting, submit the grievance in writing (copies to other participants, including the Construction Manager or designee) to the BCTC. In the event the matter is not resolved at Step 2, either J.J. Pierson or Richard Adelman, who shall act, alternately (beginning with Arbitrator J.J. Pierson), as the Arbitrator under this procedure, shall be designated at the Step 2 hearing and the BCTC will notify the arbitrator of his designation. After such notification by the BCTC, the local demanding arbitration shall within a reasonable time request the arbitrator to schedule the matter for an arbitration hearing date. The Labor Arbitration Rules of the American Arbitration Association shall govern the conduct of the arbitration hearing, at which all Step 2 participants shall be parties. The decision of the Arbitrator shall be final and binding on the involved Contractor, Local Union and employees and the fees and expenses of such arbitrations shall be borne equally by the involved Contractor and Local Union.



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(b) Failure of the grieving party to adhere to the time limits set forth in this Article shall render the grievance null and void. These time limits may be extended only by written consent of the Construction Manager (or designee), involved Contractor and involved Local Union at the particular step where the extension is agreed upon. The Arbitrator shall have authority to make decisions only on the issues presented to him and shall not have the authority to change, add to, delete or modify any provision of this Agreement.

**SECTION 2. LIMITATION AS TO RETROACTIVITY**

No arbitration decision or award, with the exception of those related to compliance with requirements to pay prevailing wages and supplements in accordance with federal or State law, may provide retroactivity of any kind exceeding 60 calendar days prior to the date of service of the written grievance on the Construction Manager and the involved Contractor or Local Union.

**SECTION 3. PARTICIPATION BY AGENCY AND/OR CONSTRUCTION  
MANAGER**

The Agency and Construction Manager (or such other designee of the Agency) shall be notified by the involved Contractor of all actions at Steps 2 and 3 and, at its election, may participate in full in all proceedings at these Steps, including Step 3 arbitration.

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**ARTICLE 10 - JURISDICTIONAL DISPUTES**

**SECTION 1. NO DISRUPTIONS**

There will be no strikes, sympathy strikes, work stoppages, slowdowns, picketing or other disruptive activity of any kind arising out of any jurisdictional dispute. Pending the resolution of the dispute, the work shall continue uninterrupted and as assigned by the Contractor. No jurisdictional dispute shall excuse a violation of Article 7.

**SECTION 2. ASSIGNMENT**

All Program Work assignments shall be made by the Contractor to unions affiliated with the BCTC consistent with the New York Plan for the Settlement of Jurisdictional Disputes ("New York Plan") and its Greenbook decisions, if any. Where there are no applicable Greenbook decisions, assignments shall be made in accordance with the provisions of the New York Plan and local industry practice.

**SECTION 3. NO INTERFERENCE WITH WORK**

There shall be no interference or interruption of any kind with the Program Work while any jurisdictional dispute is being resolved. The work shall proceed as assigned by the Contractor until finally resolved under the applicable procedure of this Article. The award shall be confirmed in writing to the involved parties. There shall be no strike, work stoppage or interruption in protest of any such award.

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ARTICLE 11 - WAGES AND BENEFITS

SECTION 1. CLASSIFICATION AND BASE HOURLY RATE

All employees covered by this Agreement shall be classified in accordance with the work performed and paid the hourly wage rates applicable for those classifications as required by the applicable prevailing wage laws.

SECTION 2. EMPLOYEE BENEFITS

A. The Contractors agree to pay on a timely basis contributions on behalf of all employees covered by this Agreement to those established jointly trustee employee benefit funds designated in the applicable Collective Bargaining Agreements in Schedule A (in the appropriate Schedule A amounts), provided that such benefits are required to be paid on public works under any applicable prevailing wage law. Bona fide jointly trustee fringe benefit plans established or negotiated through collective bargaining during the life of this Agreement may be added if similarly required under applicable prevailing wage law. Contractors, not otherwise contractually bound to do so, shall not be required to contribute to benefits, trusts or plans of any kind which are not required by the prevailing wage law provided, however, that this provision does not relieve Contractors signatory to local collective bargaining agreement with any affiliated union from complying with the fringe benefit requirements for all funds contained in the CBA.

B. 1. Notwithstanding Section 2 (A) above, and subject to 2 (B)(2) below, Contractors who designate employees pursuant to Article 4, Section 2 (B) and (C) ("core" employees) that are not signatory to a Schedule A Agreement and who maintain bona fide private benefit plans that satisfy the requirements of Section 220 of the Labor Law, may

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satisfy the above benefit obligation with respect to those employees by providing those employees with coverage under their private benefit plans (to the extent consistent with Section 220). The total benefit payments to be made on behalf of each such employee must be equal to the total Section 220 supplement amount and any shortfall must be paid by cash supplement to the employee.

2. A contractor that will satisfy its Section 220 obligations in accordance with subsection 2(B)(1) above shall make available to the Agency at the time of contract award a complete set of plan documents for each non-Schedule A benefit plan into which contributions will be made and/or coverage provided pursuant to the provisions of Section 2(B)(1) above. The Contractor shall also provide certification from a certified public accountant as to the annualized hourly value of such benefits consistent with the requirements of Section 220.

3. The City shall verify that the alternate benefit plan(s), together with any cash supplement to the employee, is compliant with Section 220 prior to awarding the Contractor a contract covered by this Agreement. In the event the Contractor's alternate benefit plan(s), together with any cash supplement to the employee, is determined to be compliant with Section 220 and will be utilized by the Contractor on behalf of Article 4, Section 2(B) and (C) core employees, the Local Unions have no duty to enforce the Contractor's obligations on the alternate benefit plan(s) as they are not party to the alternate plan(s) or privy to the terms and conditions of the plan obligations. In the event the City determines the alternate benefit plan(s), together with any cash supplement to the employee, is not compliant with Section 220, the Contractor may, upon executing a Letter

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of Assent, satisfy its obligations for all employees, including core employees, by contributing to the Schedule A benefit plans in accordance with the terms of the Schedule A Agreements.

C. The Contractors agree to be bound by the written terms of the legally established jointly trustee Trust Agreements specifying the detailed basis on which payments are to be paid into, and benefits paid out of, such Trust Funds but only with regard to Program Work done under this Agreement and only for those employees to whom this Agreement requires such benefit payments.

D. 1. To the extent consistent with New York City's Procurement Policy Board Rules with respect to prompt payment, as published at [www.nyc.gov/ppb](http://www.nyc.gov/ppb), §4-06(e), and in consideration of the unions' waiver of their rights to withhold labor from a contractor or subcontractor delinquent in the payment of fringe benefits contributions ("Delinquent Contractor"); the Agency agrees that where any such union and/or fringe benefit fund shall notify the Agency, the General Contractor, and the Delinquent Contractor in writing with back-up documentation that the Delinquent Contractor has failed to make fringe benefit contributions to it as provided herein and the Delinquent Contractor shall fail, within ten (10) calendar days after receipt of such notice, to furnish either proof of such payment or notice that the amount claimed by the union and/or fringe benefit fund is in dispute, the Agency shall withhold from amounts then or thereafter becoming due and payable to the General Contractor an amount equal to that portion of such payment due to the General Contractor that relates solely to the work performed by

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the Delinquent Contractor which the union or fringe benefit fund claims to be due it, and shall remit the amount when and so withheld to the fringe benefit fund and deduct such payment from the amounts then otherwise due and payable to the General Contractor, which payment shall, as between the General Contractor and the Agency, be deemed a payment by the Agency to the General Contractor; provided however, that in any month, such withholding shall not exceed the amount contained in the General Contractor's monthly invoice for work performed by the Delinquent Contractor. The union or its employee benefit funds shall include in its notification of delinquent payment of fringe benefits only such amount it asserts the Delinquent Contractor failed to pay on the specific project against which the claim is made and the union or its employee benefit funds may not include in such notification any amount such Delinquent Contractor may have failed to pay on any other City or non-City project.

2. In addition, where a union or employee benefit fund gives notice to the City that a Contractor is Delinquent as defined in subsection 2(D)(1) above and the City determines that the notice includes appropriate back-up documentation that the Contractor is delinquent, the City will promptly, but not later than twenty (20) days after receipt of the notice, provide a copy of said notice to City Agencies. In the event the City determines there is insufficient back-up documentation, it will notify the appropriate union and/or fringe benefit fund promptly, but not later than twenty (20) days after receipt of the Delinquency Notice, and shall include notice of what additional documentation is requested. Any determination by the City that there is insufficient back-up must be reasonable. This provision is intended to enhance compliance with the prevailing wage

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law and the PLA with respect to the payment of fringe benefits, and is not intended as a substitute for the resolution of a disputed claim pursuant to any applicable law or agreement.

The City and the relevant Agency(s) will thereafter require the Delinquent Contractor to provide cancelled checks or other equivalent proof of payment of benefit contributions that have come due, to be submitted with certified payroll reports for all Program Work covered by this Agreement on which the Delinquent Contractor is engaged, for at least a one-year period or such earlier period if the Contractor is ultimately determined not be a Delinquent Contractor. Such proof of payment when required is a condition of payment of the Delinquent Contractor's invoices by any entity, including, but not limited to, the City, the relevant Agency(s), Construction Manager, General Contractor, the prime or higher level subcontractor, as is appropriate under the Delinquent Contractor's engagement. The union and the funds shall upon request receive copies of the certified payrolls, cancelled checks, or other proof of payment from the City and/or the relevant Agency(s).

E. In the event the General Contractor or Delinquent Contractor shall notify the Agency as above provided that the claim of the union or fringe benefit fund is in dispute, the Agency shall withhold from amounts then or thereafter becoming due and payable to the General Contractor an amount equal to that portion of such payment due to the General Contractor that relates solely to the work performed by the Delinquent Contractor that the union and/or fringe benefit fund claims to be due it, pending resolution of the dispute pursuant to the union's Schedule A agreement, and the amount shall be paid to the party or parties ultimately determined to be entitled thereto, or held until the

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Delinquent Contractor and union or employee benefit fund shall otherwise agree as to the disposition thereof; provided however, that such withholding shall not exceed the amount contained in the General Contractor's monthly invoice for work performed by the Delinquent Contractor. In the event the Agency shall be required to withhold amounts from a General Contractor for the benefit of more than one fringe benefit fund, the amounts so withheld in the manner and amount prescribed above shall be applied to or for such fund in the order in which the written notices of nonpayment have been received by the Agency, and if more than one such notice was received on the same day, proportionately based upon the amount of the union and/or fringe benefit fund claims received on such day. Nothing herein contained shall prevent the Agency from commencing an interpleader action to determine entitlement to a disputed payment in accordance with section one thousand six of the civil practice law and rules or any successor provision thereto.

F. Payment to a fringe benefit fund under this provision shall not relieve the General Contractor or Delinquent Contractor from responsibility for the work covered by the payment. Except as otherwise provided, nothing contained herein shall create any obligation on the part of the Agency to pay any union or fringe benefit fund, nor shall anything provided herein serve to create any relationship in contract or otherwise, implied or expressed, between the union/fund and/or fringe benefit and the Agency.



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ARTICLE 12- HOURS OF WORK, PREMIUM PAYMENTS,

SHIFTS AND HOLIDAYS

SECTION 1. WORK WEEK AND WORK DAY

A. The standard work week shall consist of 40 hours of work at straight time rates, Monday through Friday, 8 hours per day, plus ½ hour unpaid lunch period. The standard work week may be reduced to 35 or 37 ½ hours of work at straight time rates, Monday to Friday, 7 or 7 ½ hours per day, plus ½ hour unpaid lunch period in those limited circumstances where the City states in the bid documents that the Contractor will not be given access to the site to accommodate an 8 hour day. The 8 hour, 7 ½ hour or 7 hour work day must be established at the commencement of the project and may not be altered by the Contractor.

B. In accordance with Program needs, there shall be flexible start times with advance notice from Contractor to the Union. The Day Shift shall commence between the hours of 6:00 a.m. and 9:00 a.m. and shall end between the hours of 2:30 p.m. and 5:30 p.m., for an 8 hour day, and up to 7:30 p.m. for a 10 hour day. The Evening Shift shall commence between the hours of 3:00 p.m. and 6:00 p.m., unless different times are necessitated by the Agency's phasing plans on specific projects. The Night Shift shall commence between the hours of 11:00 p.m. and 2:00 a.m., unless different times are necessitated by the Agency's phasing plans on specific projects. Subject to the foregoing, starting and quitting times shall occur at the Program Work site designated by the Contractor.

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C. Scheduling — Except as provided above, Monday through Friday is the standard work week; 8 hours of work plus ½ hour unpaid lunch. Notwithstanding any other provision of this Agreement, a contractor may schedule a four day work week, 10 hours per day at straight time rates, plus a ½ hour unpaid lunch, at the commencement of the job.

D. Notice - Contractors shall provide not less than 5 days prior notice to the Local Union involved as to the work week and work hour schedules to be worked or such lesser notice as may be mutually agreed upon.

**SECTION 2. OVERTIME**

Overtime shall be paid for any work (i) over an employee's regularly scheduled work day, i.e., work over eight (8) hours in a day where 5/8s is scheduled, work over ten (10) hours in a day where 4/10s is scheduled, or work over seven (7) or seven and one half (7 ½) hours where such hours are scheduled pursuant to Article 12, section 1(A) and (ii) over forty (40) hours in a week, or over thirty five (35) or thirty seven and one-half (37 ½) where such hours are scheduled pursuant to Article 12, section 1(A). Overtime shall be paid at time and one half (1½) Monday through Saturday. All overtime work performed on Sunday and Holidays will be paid pursuant to the applicable Schedule A. There shall be no stacking or pyramiding of overtime pay under any circumstances. There will be no restriction upon the Contractor's scheduling of overtime or the nondiscriminatory designation of employees who shall be worked, including the use of employees, other than those who have worked the regular or scheduled work week, at straight time rates. The Contractor shall have the right to schedule work so as to minimize

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overtime or schedule overtime as to some, but not all, of the crafts and whether or not of a continuous nature.

**SECTION 3. SHIFTS**

A. Flexible Schedules - Scheduling of shift work, including Saturday and Sunday work, shall be within the discretion of the Contractor in order to meet Program Work schedules and existing Program Work conditions including the minimization of interference with the mission of the Agency. It is not necessary to work a day shift in order to schedule a second or third shift, or a second shift in order to schedule a third shift, or to schedule all of the crafts when only certain crafts or employees are needed. Shifts must have prior approval of the Agency or Construction Manager, and must be scheduled with not less than five work days notice to the Local Union or such lesser notice as may be mutually agreed upon.

B. Second and/or Third Shifts/Saturday and/or Sunday Work - - The second shift shall start between 3 p.m. and 6 p.m. and the third shift shall start between 11 p.m. and 2 a.m., subject to different times necessitated by the Agency phasing plans on specific projects. There shall be no reduction in shift hour work. With respect to second and third shift work there shall be a 5% shift premium. No other premium or other payments for such work shall be required unless such work is in excess of the employee's regularly scheduled work week, i.e., 40 hours in the week or thirty five (35) or thirty seven and one half (37 ½) pursuant to Article 12, section 1(A). All employees within a classification performing Program Work will be paid at the same wage rate regardless of the shift or work scheduled work, subject only to the foregoing provisions.

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C. Flexible Starting Times - Shift starting times will be adjusted by the Contractor as necessary to fulfill Program Work requirements subject to the notice requirements of paragraph A.

**SECTION 4. HOLIDAYS**

A. Schedule - There shall be nine (9) recognized holidays on the Project:

New Year's Day

Martin Luther King Day

President's Day

Memorial Day

Veteran's Day

Labor Day

Thanksgiving Day

Independence Day

Christmas Day

All said holidays shall be observed on the calendar date except those holidays which occur on Saturday shall be observed on the previous Friday and those that occur on Sunday shall be observed on the following Monday.

B. Payment - Regular holiday pay, if any, for work performed on such a recognized holiday shall be in accordance with the applicable Schedule A.

C. Exclusivity - No holidays other than those listed in Section 4(A) above shall be recognized or observed.

**SECTION 5. SATURDAY MAKE-UP DAYS**

When severe weather, power failure, fire or natural disaster or other similar circumstances beyond the control of the Contractor prevent work from being performed on

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a regularly scheduled weekday, the Contractor may schedule a Saturday make-up day and such time shall be scheduled and paid as if performed on a weekday. Any other Saturday work shall be paid at time and one-half (1½). The Contractor shall notify the Local Union on the missed day or as soon thereafter as practicable if such a make-up day is to be worked.

**SECTION 6. REPORTING PAY**

A. Employees who report to the work location pursuant to their regular schedule and who are not provided with work shall be paid two hours reporting pay at straight time rates. An employee whose work is terminated early by a Contractor due to severe weather, power failure, fire or natural disaster or for similar circumstances beyond the Contractor's control, shall receive pay only for such time as is actually worked. In other instances in which an employee's work is terminated early (unless provided otherwise elsewhere in this Agreement), the employee shall be paid for his full shift. Contractors shall not be permitted to call, text or email or voicemail employees in advance of their regularly scheduled shift starting time to avoid reporting pay. Notwithstanding the above, in the event that the National Weather Service issues a weather advisory for the area in which the work location is situated, and the entire project is shut down as a result of the Weather Advisory, the contractor shall be permitted to speak to employees no less than four (4) hours in advance of their shift starting time, unless the Local Union consents to a shorter notice in writing, to advise them not to report to work due to the National Weather Service advisory, and employees who are so notified shall not receive two (2) hours reporting pay if they report to the work location. The contractor shall make every effort to

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notify each employee directly and confirm that notification has been received. Voice, text, and email messages left for employees without confirmation of delivery and receipt by employee do not constitute sufficient notice under this provision.

B. When an employee, who has completed their scheduled shift and left the Program Work site, is "called out" to perform special work of a casual, incidental or irregular nature, the employee shall receive overtime pay at the rate of time and one-half of the employee's straight time rate for hours actually worked.

C. When an employee leaves the job or work location of their own volition or is discharged for cause or is not working as a result of the Contractor's invocation of Section 7 below, they shall be paid only for the actual time worked.

D. Except as specifically set forth in this Article there shall be no premiums, bonuses, hazardous duty, high time or other special premium payments or reduction in shift hours of any kind.

E. There shall be no pay for time not actually worked except as specifically set forth in this Article and except where an applicable Schedule A requires a full weeks' pay for forepersons.

**SECTION 7. PAYMENT OF WAGES**

A. Termination- Employees who are laid off or discharged for cause shall be paid in full for that which is due them at the time of termination. The Contractor shall also provide the employee with a written statement setting forth the date of lay off or discharge.

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**SECTION 8. EMERGENCY WORK SUSPENSION**

A Contractor may, if considered necessary for the protection of life and/or safety of employees or others, suspend all or a portion of Program Work. In such instances, employees will be paid for actual time worked, except that when a Contractor requests that employees remain at the job site available for work, employees will be paid for that time at their hourly rate of pay.

**SECTION 9. INJURY/DISABILITY**

An employee who, after commencing work, suffers a work-related injury or disability while performing work duties, shall receive no less than a full day's pay in accordance with the employee's regularly scheduled work day under Article 12, section (1)(A). Further, the employee shall be rehired at such time as able to return to duties provided there is still Program Work available for which the employee is qualified and able to perform.

**SECTION 10. TIME KEEPING**

A Contractor may utilize brassing or other systems to check employees in and out. Each employee must check in and out. The Contractor will provide adequate facilities for checking in and out in an expeditious manner.

**SECTION 11. MEAL PERIOD**

A Contractor shall schedule an unpaid period of not more than 1/2 hour duration at the work location between the 3rd and 5th hour of the scheduled shift. A Contractor may, for efficiency of operation, establish a schedule which coordinates the meal periods of two or more crafts or which provides for staggered lunch periods within a

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craft or trade. If an employee is required to work through the meal period, the employee shall be compensated in a manner established in the applicable Schedule A.

**SECTION 12. BREAK PERIODS**

There will be no rest periods, organized coffee breaks or other non-working time established during working hours. Individual coffee containers will be permitted at the employee's work location. Where 4/10s are being worked there shall be a morning and an afternoon coffee break.

**ARTICLE 13 - APPRENTICES**

**SECTION 1. RATIOS**

Recognizing the need to maintain continuing supportive programs designed to develop adequate numbers of competent workers in the construction industry and to provide craft entry opportunities for minorities, women and economically disadvantaged non-minority males, Contractors will employ apprentices in their respective crafts to perform such work as is within their capabilities and which is customarily performed by the craft in which they are indentured. Contractors may utilize apprentices and such other appropriate classifications in the maximum ratio permitted by the New York State Department of Labor or the maximum allowed per trade. Apprentices and such other classifications as are appropriate shall be employed in a manner consistent with the provisions of the appropriate Schedule A. The parties encourage, as an appropriate source of apprentice recruitment consistent with the rules and operations of the affiliated unions' apprentice-programs, the use of the Edward J. Malloy Initiative for Construction Skills, Non-Traditional Employment for Women and Helmets to Hardhats.



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ARTICLE 14-SAFETY PROTECTION OF PERSON AND PROPERTY

SECTION 1. SAFETY REQUIREMENTS

Each Contractor will ensure that applicable OSHA and safety requirements are at all times maintained on the Program Work site and the employees and Unions agree to cooperate fully with these efforts to the extent consistent with their rights and obligations under the law. Employees will cooperate with employer safety policies and will perform their work at all times in a safe manner and protect themselves and the property of the Contractor and Agency from injury or harm, to the extent consistent with their rights and obligations under the law. Failure to do so will be grounds for discipline, including discharge.

SECTION 2. CONTRACTOR RULES

Employees covered by this Agreement shall at all times be bound by the reasonable safety, security, and visitor rules as established by the Contractors and the Construction Manager for this Program Work. Such rules will be published and posted in conspicuous places throughout the Program Work sites. Any site security and access policies established by the Construction Manager or General Contractor intended for specific application to the construction workforce for Program Work and that are not established pursuant to an Agency directive shall be implemented only after notice to the BCTC and its affiliates and an opportunity for negotiation and resolution by the Labor Management Committee.

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**SECTION 3. INSPECTIONS**

The Contractors and Construction Manager retain the right to inspect incoming shipments of equipment, apparatus, machinery and construction materials of every kind.

**ARTICLE 15 - TEMPORARY SERVICES**

Temporary services, i.e. all temporary heat, climate control, water, power and light, shall only be required upon the determination of the Agency or Construction Manager, and when used shall be staffed and assigned to the appropriate trade(s) with jurisdiction. Temporary services shall be provided by the appropriate Contractors' existing employees during working hours in which a shift is scheduled for employees of this Contractor. The Agency or Construction Manager may determine the need for temporary services requirements during non-working hours, and when used shall be staffed and assigned to the appropriate trades(s). There shall be no stacking of trades on temporary services, provided this does not constitute a waiver of primary trade jurisdiction. In the event a temporary system component is claimed by multiple trades, the matter shall be resolved through the New York Plan for Jurisdictional Disputes.

**ARTICLE 16 - NO DISCRIMINATION**

**SECTION 1. COOPERATIVE EFFORTS**

The Contractors and Unions agree that they will not discriminate against any employee or applicant for employment because of creed, race, color, religion, sex, sexual orientation, national origin, marital status, citizenship status, disability, age or any other status provided by law, in any manner prohibited by law or regulation.

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**SECTION 2. LANGUAGE OF AGREEMENT**

The use of the masculine or feminine gender in this Agreement shall be construed as including both genders.

**ARTICLE 17- GENERAL TERMS**

**SECTION 1. PROJECT RULES**

A. The Construction Manager and the Contractors shall establish such reasonable Program Work rules that are not inconsistent with this Agreement or rules common in the industry and are reasonably related to the nature of work. These rules will be explained at the pre-job conference and posted at the Program Work sites and may be amended thereafter as necessary. Notice of amendments will be provided to the appropriate Local Union. Failure of an employee to observe these rules and regulations shall be grounds for discipline, including discharge. The fact that no order was posted prohibiting a certain type of misconduct shall not be a defense to an employee disciplined or discharged for such misconduct when the action taken is for cause.

B. The parties adopt and incorporate the BCTC's Standards of Excellence as annexed hereto as Exhibit "B".

**SECTION 2. TOOLS OF THE TRADE**

The welding/cutting torch and chain fall are tools of the trade having jurisdiction over the work performed. Employees using these tools shall perform any of the work of the trade. There shall be no restrictions on the emergency use of any tools or equipment by any qualified employee or on the use of any tools or equipment for the performance of work within the employee's jurisdiction.

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**SECTION 3. SUPERVISION**

Employees shall work under the supervision of the craft foreperson or general foreperson.

**SECTION 4. TRAVEL ALLOWANCES**

There shall be no payments for travel expenses, travel time, subsistence allowance or other such reimbursements or special pay except as expressly set forth in this Agreement.

**SECTION 5. FULL WORK DAY**

Employees shall be at their work area at the starting time established by the Contractor, provided they are provided access to the work area. The signatories reaffirm their policy of a fair day's work for a fair day's wage.

**SECTION 6. COOPERATION AND WAIVER**

The Construction Manager, Contractors and the Unions will cooperate in seeking any NYS Department of Labor, or any other government, approvals that may be needed for implementation of any terms of this Agreement. In addition, the Council, on their own behalf and on behalf of its participating affiliated Local Unions and their individual members, intend the provisions of this Agreement to control to the greatest extent permitted by law, notwithstanding contrary provisions of any applicable prevailing wage, or other, law and intend this Agreement to constitute a waiver of any such prevailing wage, or other, law to the greatest extent permissible only for work within the scope of this Agreement, including specifically, but not limited to those provisions relating to shift, night, and similar differentials and premiums. This Agreement does not, however,

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constitute a waiver or modification of the prevailing wage schedules applicable to work not covered by this Agreement.

**ARTICLE 18. SAVINGS AND SEPARABILITY**

**SECTION 1. THIS AGREEMENT**

In the event that the application of any provision of this Agreement is enjoined, on either an interlocutory or permanent basis, or is otherwise determined to be in violation of law, or if such application may cause the loss of Program funding or any New York State Labor Law exemption for all or any part of the Program Work, the provision or provisions involved (and/or its application to particular Program Work, as necessary) shall be rendered, temporarily or permanently, null and void, but where practicable the remainder of the Agreement shall remain in full force and effect to the extent allowed by law (and to the extent no funding or exemption is lost), unless the part or parts so found to be in violation of law or to cause such loss are wholly inseparable from the remaining portions of the Agreement and/or are material to the purposes of the Agreement. In the event a court of competent jurisdiction finds any portion of the Agreement to trigger the foregoing, the parties will immediately enter into negotiations concerning the substance affected by such decision for the purpose of achieving conformity with the court determination and the intent of the parties hereto for contracts to be let in the future.

**SECTION 2. THE BID SPECIFICATIONS**

In the event that the Agency's (or Construction Manager's) bid specifications, or other action, requiring that a successful bidder (and subcontractor) become signatory to this Agreement is enjoined, on either an interlocutory or permanent

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basis, or is otherwise determined to be in violation of law, or may cause the loss of Program funding or any New York State Labor Law exemption for all or any part of the Program Work, such requirement (and/or its application to particular Program Work, as necessary) shall be rendered, temporarily or permanently, null and void, but where practicable the Agreement shall remain in full force and effect to the extent allowed by law and to the extent no funding or exemption is lost). In such event, the Agreement shall remain in effect for contracts already bid and awarded or in construction only where the Agency and Contractor voluntarily accepts the Agreement. The parties will enter into negotiations as to modifications to the Agreement to reflect the court or other action taken and the intent of the parties for contracts to be let in the future.

**SECTION 3. NON-LIABILITY**

In the event of an occurrence referenced in Section 1 or Section 2 of this Article, neither the Agency, the Construction Manager, any Contractor, nor any Union shall be liable, directly or indirectly, for any action taken, or not taken, to comply with any court order or injunction, other determination, or in order to maintain funding or a New York State Labor Law exemption for Program Work. Bid specifications will be issued in conformance with court orders then in effect and no retroactive payments or other action will be required if the original court determination is ultimately reversed.

**SECTION 4. NON-WAIVER**

Nothing in this Article shall be construed as waiving the prohibitions of Article 7 as to signatory Contractors and signatory Unions.

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**ARTICLE 19 - FUTURE CHANGES IN SCHEDULE A AREA CONTRACTS**

**SECTION 1. CHANGES TO AREA CONTRACTS**

A. Schedule A to this Agreement shall continue in full force and effect until the Contractor and/or Union parties to the Area Collective Bargaining Agreements that are the basis for the Schedule A notify the Agency and Construction Manager in writing of the changes agreed to in that Area Collective Bargaining which are applicable to work covered by this Agreement and their effective dates.

B. It is agreed that any provisions negotiated into Schedule A collective bargaining agreements will not apply to work under this Agreement if such provisions are less favorable to those uniformly required of contractors for construction work normally covered by those agreements; nor shall any provision be recognized or applied on Program Work if it may be construed to apply exclusively, or predominantly, to work covered by this Agreement.

C. Any disagreement between signatories to this Agreement over the incorporation into Schedule A of provisions agreed upon in the renegotiation of Area Collective Bargaining Agreements shall be resolved in accordance with the procedure set forth in Article 9 of this Agreement.

**SECTION 2. LABOR DISPUTES DURING AREA CONTRACT NEGOTIATIONS**

The Unions agree that there will be no strikes, work stoppages, sympathy actions, picketing, slowdowns or other disruptive activity or other violations of Article 7 affecting the Program Work by any Local Union involved in the renegotiation of Area

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Local Collective Bargaining Agreements nor shall there be any lock-out on such Program Work affecting a Local Union during the course of such renegotiations.

**ARTICLE 20 - WORKERS' COMPENSATION ADR**

**SECTION 1.**

An ADR program may be negotiated and participation in the ADR Program will be optional by trade.

**ARTICLE 21 - HELMETS TO HARDHATS**

**SECTION 1.**

The Contractors and the Unions recognize a desire to facilitate the entry into the building and construction trades of veterans who are interested in careers in the building and construction industry. The Contractors and Unions agree to utilize the services of the New York City Helmets to Hardhats Program to serve as a resource for preliminary orientation, assessment of construction aptitude, referral to apprenticeship programs or hiring halls, counseling and mentoring, support network, employment opportunities and other needs as identified by the parties.

**SECTION 2.**

The Unions and Contractors agree to coordinate with the Program to create and maintain an integrated database of veterans interested in working on this Project and of



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apprenticeship and employment opportunities for this Project. To the extent permitted by law, the Unions will give credit to such veterans for bona fide, provable past experience.

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IN WITNESS WHEREOF the parties have caused this Agreement to be executed and  
effective as of the \_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_

FOR BUILDING AND CONSTRUCTION TRADES COUNCIL  
OF GREATER NEW YORK AND VICINITY

BY: \_\_\_\_\_  
Gary LaBarbera  
President

FOR NEW YORK CITY

BY:  
Anthony Shorris  
First Deputy Mayor

APPROVED AS TO FORM:

\_\_\_\_\_  
ACTING CORPORATION COUNSEL  
NEW YORK CITY

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LIST OF SIGNATORY UNIONS
Boiler Makers Local No. 5
Carpenters District Council
Cement Masons No. 780
Concrete Workers, District Council No. 16
Derrickmen and Riggers, Local Union No. 197
Drywall Tapers 1974, District Council 9
Electrical Workers Local No. 3
Glaziers Local Union No. 1087 District Council 9
Heat & Frost Insulators, Local Union No. 12A
Heat & Frost Insulators, Local Union No. 12
Iron Workers District Council
Iron Workers Local Union No. 40
Iron Workers Local No. 361
Laborers Local No. 78, Asbestos & Lead Abatement
Laborers Local 1010 Pavers and Road Builders District Council
Laborers 79 Construction and General Building Laborers
Laborers Local No. 731 Excavators
Mason Tenders District Council
Metal Lathers Local No. 46
Metal Polishers District Council 9
Ornamental Iron Workers Local No. 580
Painters District Council 9
Plumbers Local No. 1
Painters, Decorators & Wallcoverers District Council 9
Painters Structural Steel No. 806
Plasterers Local Union No. 262
Roofers & Waterproofers Local 8
Steamfitters Local Union No. 638
Sheet Metal Workers Local No. 28
Sheet Metal Workers Local No. 137
Teamsters Local Union No. 282
Teamsters Local Union 814
Teamsters Local No. 813 Private Sanitation
Tile, Marble & Terrazzo B.A.C. Local Union No. 7
Elevator Constructors Union Local No. 1

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SCHEDULE "A"

Union	Contract Agreement w/
Architectural and Ornamental Iron Workers Local Union 580 AFL-CIO	Alfred Building Metal Industries, Inc.
Building, Concrete, Excavating & Common Laborers Local 731	Independent
Building, Concrete, Excavating & Common Laborers Local 731	Members of the General Contractors Association of New York, Inc.
District Council No. 9 I.U.P.A. Glaziers Local 1087	Window and Plate Glass Dealers Association
Drywall, Papers and Putties Local 1974 affiliated with International Union of Painters & Allied Trades and Drywall Taping Contractors Association & Association of Wall-Coding & Carpentry Industries NY, Inc.	Independent
Enterprise Association of Steamfitters and Apprentices Local 633	Mechanical Contractors Association of NY Inc.
Enterprise Association of Steamfitters and Apprentices Local 633	Independent
Highway Road and Street Laborers Local Union 1010 of the District Council of Pavers and Road Builders of the Laborers International Union of North America AFL-CIO	Independent
Highway Road and Street Laborers Local Union 1010 of the District Council of Pavers and Road Builders of the Laborers International Union of North America AFL-CIO	Member of the General Contractors Association of New York, Inc.
International Association of Heat and Frost Insulators and Allied Workers Local No. 113 of New York City	Independent
International Association of Heat and Frost Insulators and Allied Workers Local No. 112 of New York City	The Insulation Contractors Association of New York City, Inc.
International Association of Heat and Frost Insulators and Allied Workers Local No. 112A of New York City	Independent

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International Association of Heat and Frost Insulators and Allied Workers Local No. 12A of New York City	Environmental Contractors Association, Inc.
International Brotherhood of Boilermakers Iron Ship Builders, Blacksmiths, Forgers and Helpers, AFL-CIO, Local Lodge No. 5	Boilermakers Association of Greater New York
Local Union No. 3 International Brotherhood of Electrical Workers, AFL-CIO	New York Electrical Contractors Association
International Brotherhood of Teamsters, Local 282, High Rise contract	Building Contractors Association & Independents
Local 46 Metallic Lathers Union and Reinforcing Iron Workers of NY and Vicinity of the International Association of Bridge, Structural, Ornamental and Reinforcing Iron Workers	Cement League
Local 46 Metallic Lathers Union and Reinforcing Iron Workers of NY and Vicinity of the International Association of Bridge, Structural, Ornamental and Reinforcing Iron Workers	Independent
Local 8 Roofers, Waterproofers & Allied Workers	Roofing and Waterproofing Contractors Association of New York and Vicinity
Local Union 1 of the United Association of Journeymen and Apprentices of the Pipe Fitting Industry of the United States and Canada	Association of Contracting Plumbers of the City of New York
Local Union Number 40 & 361 of Bridge, Structural Ornamental and Reinforcing Iron Workers AFL-CIO	Independent
Operative Plasterers' and Cement Masons International Association Local No. 262	Independent
Painters and Allied Trades AFL-CIO, District Council No. 9 (Painting and Protective Coatings CBA)	Independent



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Painters and Allied Trades AFL-CIO District Council No. 9 (Painting and Protective Coatings CBA)	The Association of Master Painters & Decorators of NY, Inc. and The Association of Wall, Ceiling & Carpentry Industries of NY, Inc. and The Window and Plate Glass Dealers Association.
Sheet Metal Workers International Association Local 28	Sheet Metal & Air Conditioning Contractors Association of New York City, Inc.
Sheet Metal Workers International Association Local 137	The Greater New York Sign Association
Structural Steel and Bridge Painters Local 806, I.C. 9 International Union of Painters and Allied Trades, AFL-CIO	New York Structural Steel Painting Contractors Association
Teamsters Local 813	Independent
Teamsters Local 813	IESI NY Corporation
Teamsters Local 814	Greater New York Movers and Warehousemen's Bargaining Group
The Cement Masons Union Local 730	Cement League
The District Council of Cement and Concrete Workers (comprised of Local 6A, Local 18A and Local 20)	Cement League
The District Council of Cement and Concrete Workers (comprised of Local 6A, Local 18A and Local 20)	Independent

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The District Council of New York City and Vicinity of the United Brotherhood of Carpenters and Joiners of America for Heavy Carpenters	GCA
The District Council of New York City and Vicinity of the United Brotherhood of Carpenters and Joiners of America for Dockbuilders Local No. 1556	Concrete Contractors of NY
The District Council of New York City and Vicinity of the United Brotherhood of Carpenters and Joiners of America for Dockbuilders Local 1556	Independent
The District Council of New York City and Vicinity of the United Brotherhood of Carpenters and Joiners of America for Millwright Local 740	Independent
The District Council of New York City and Vicinity of the United Brotherhood of Carpenters and Joiners of America for Timbermen Local 1556	Independent
The District Council of New York City and Vicinity of the United Brotherhood of Carpenters and Joiners of America for Timbermen Local 1556	GCA
The District Council of New York City and Vicinity of the United Brotherhood of Carpenters and Joiners of America for Heavy Carpenters	Independent
The District Council of New York City and Vicinity of the United Brotherhood of Carpenters and Joiners of America for Carpenters	Manufacturing Woodworkers Association of Greater New York Incorporated
The District Council of New York City and Vicinity of the United Brotherhood of Carpenters and Joiners of America	The Hoisting Trade Association of New York, Inc
The District Council of New York City and Vicinity of the United Brotherhood of Carpenters and Joiners of America	The Test Boring Association

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The District Council of New York City and Vicinity of the United Brotherhood of Carpenters and Joiners of America	Building Contractors Association
The District Council of New York City and Vicinity of the United Brotherhood of Carpenters and Joiners of America	The Association of Wall-Ceiling & Carpentry Industries of New York Incorporated
The District Council of New York City and Vicinity of the United Brotherhood of Carpenters and Joiners	The Cement League
The District Council of NYC and Vicinity of the United Brotherhood of Carpenters and Joiners of America	New York City Millwright Association
The District Council of New York City and Vicinity of the United Brotherhood of Carpenters and Joiners	Greater New York Floor Covering Association
The District Council of New York City and Vicinity of the United Brotherhood of Carpenters and Joiners of America for Carpenters	Association of Architectural Metal & Glass
The District Council of New York City and Vicinity of the United Brotherhood of Carpenters and Joiners of America for Carpenters	Concrete Contractors of NY
The District Council of New York City and Vicinity of the United Brotherhood of Carpenters and Joiners of America for Building Construction Carpenters	Independent
The District Council of New York City and Vicinity of the United Brotherhood of Carpenters and Joiners of America for Local 2287	Independent
The District Council of New York City and Vicinity of the United Brotherhood of Carpenters and Joiners of America for Shop Carpenters	Independent
The Tile Setters and Tile Finishes Union of New York and New Jersey Local 7 of the International Bricklayers and Allied Craftworkers	The Greater New York and New Jersey Contractors Association



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United Derricksmen & Riggers Association Local 197 of NY LI Westchester & Vicinity	Contracting Stonesetters Association Inc
United Derricksmen & Riggers Association LI 197 of NY LI Westchester and Vicinity	Building Stone and Pre-cast Contractors Association
International Union of Operating Engineers Local 14-14B	Building Contractors Association
International Union of Operating Engineers Local 14-14B	Contractors Association of Greater NY
International Union of Operating Engineers Local 14-14B	GCA
International Union of Operating Engineers Local 14-14B	The Cement League
International Union of Operating Engineers Local 14-14B	Allied Building Metal Industries, Inc.
International Union of Operating Engineers Local 14-14B	Brick Association
International Union of Operating Engineers Local 14-14B	Independent
International Union of Operating Engineers Local 15	Allied Building Metal Industries, Inc.
International Union of Operating Engineers Local 15-15A	General Contractors Association
International Union of Operating Engineers Local 15D	General Contractors Association
International Union of Operating Engineers Local 15D	Structural Steel Erectors

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International Union of Operating Engineers Local 15-15A	Building Contractors Association
International Union of Operating Engineers Local 15D	Building Contractors Association
International Union of Operating Engineers Local 15-15A	Contractors Association of Greater NY
International Union of Operating Engineers Local 15D	Contractors Association of Greater NY
International Union of Operating Engineers Local 15-15A	The Cement League
International Union of Operating Engineers Local 15D	The Cement League

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Project Labor Agreement -- Letter of Assent

Dear:

The undersigned party confirms that it agrees to be a party to and be bound by the New York Agency, Project Labor Agreement as such Agreement may, from time to time, be amended by the parties or interpreted pursuant to its terms. The terms of the Project Labor Agreement, its Schedules, Addenda and Exhibits are hereby incorporated by reference herein.

The undersigned, as a Contractor or Subcontractor (hereinafter Contractor) on the Project known as Women Center of New York Renovation and located at 207 Totten Ave. Fort Totten, NY 11359 (hereinafter PROJECT), for and in consideration of the award to it of a contract to perform work on said PROJECT, and in further consideration of the mutual promises made in the Project Labor Agreement, a copy of which was received and is acknowledged, hereby:

- (1) Accepts and agrees to be bound by the terms and conditions of the Agreement, together with any and all schedules; amendments and supplements now existing or which are later made thereto:
- (2) Agrees to be bound by the legally established collective bargaining agreements; local trust agreements for employee benefit funds; and trust documents for joint apprentice programs as well as apprentice program rules and procedures but only to the extent of Program Work and as required by the PLA.
- (3) Authorizes the parties to such local trust agreements to appoint trustees and successor trustees to administer the trust funds and hereby ratifies and accepts the trustees so appointed as if made by the Contractor but only to the extent of Program Work as required by the PLA.
- (4) Certifies that it has no commitments or agreements that would preclude its full and complete compliance with the terms and conditions of said Agreement. The Contractor agrees to employ labor that can work in harmony with all other labor on the Project and shall require labor harmony from every lower tier subcontractor it has engaged or may engage to work on the Project. Labor harmony disputes/issues shall be subject to the Labor Management Committee provisions.
- (5) Agrees to secure from any Contractor(s) (as defined in said Agreement) which is or becomes a Subcontractor (of any tier), to it, a duly executed Agreement to be Bound in from identical to this document.

Provide description of the Work, identify craft jurisdiction(s) and all contract numbers below:

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Dated: 02/14/2017

SIBA CONTRACTING CORP  
(Name of Contractor or subcontractor)

JUAN C. MEDINA  
(Name of CM; GC; Contractor or  
Higher Level Subcontractor)

IFTEKHAR HAIDER / PRESIDENT *Iftekhar Haider*  
(Authorized Officer & Title)

1815 HARRISON AVE. BAY SHORE, NY 11706  
(Address)

914-315-1758 / 866-570-2104  
(Phone) (Fax)

Contractor's State License  
# 54123 - H

Sworn to before me this  
14<sup>th</sup> day of February 2017

Sabuhi Ali Khan  
Notary Public

SABUHI ALIKHAN  
NOTARY PUBLIC-STATE OF NEW YORK  
No. 01AL6246410  
Qualified in Suffolk County  
My Commission Expires August 08, 2019

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NEW YORK CITY BUILDING AND CONSTRUCTION TRADES COUNCIL  
STANDARDS OF EXCELLENCE

The purpose of this Standard of Excellence is to reinforce the pride of every construction worker and the commitment to be the most skilled, most productive and safest workforce available to construction employers and users in the City of New York. It is the commitment of every affiliated local union to use our training and skills to produce the highest quality work and to exercise safe and productive work practices.

The rank and file members represented by the affiliated local unions acknowledge and adopt the following standards:

- *Provide a full days work for a full days pay;*
- *Safely work towards the timely completion of the job;*
- *Arrive to work on time and work until the contractual quitting time;*
- *Adhere to contractual lunch and break times;*
- *Promote a drug and alcohol free work site;*
- *Work in accordance with all applicable safety rules and procedures;*
- *Allow union representatives to handle job site disputes and grievances without resort to slowdowns, or unlawful job disruptions;*
- *Respect management directives that are safe, reasonable and legitimate;*
- *Respect the rights of co-workers;*
- *Respect the property rights of the owner, management and contractors.*

The Unions affiliated with the New York City Building and Construction Trades Council will expect the signatory contractors to safely and efficiently manage their jobs and the unions see this as a corresponding obligation of the contractors under this Standard of Excellence. The affiliated unions will expect the following from its signatory contractors:

- *Management adherence to the collective bargaining agreements;*
- *Communication and cooperation with the trade foremen and stewards;*
- *Efficient, safe and sanitary management of the job site;*
- *Efficient job scheduling to mitigate and minimize unproductive time;*
- *Efficient and adequate staffing by properly trained employees by trade;*
- *Efficient delivery schedules and availability of equipment and tools to ensure efficient job progress;*
- *Ensure proper blueprints, specifications and layout instructions and material are available in a timely manner*
- *Promote job site dispute resolution and leadership skills to mitigate such disputes;*
- *Treatment of all employees in a respectful and dignified manner acknowledging their contributions to a successful project.*

The affiliated unions and their signatory contractors shall ensure that both the rank and file members and the management staff shall be properly trained in the obligations undertaken in the Standard of Excellence.

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ADDITIONAL PARTICIPATING UNIONS

Local No. 1 New York of the International Union of Bricklayers and Allied Craft Workers

ADDITIONAL PARTICIPATING UNION SCHEDULE A

Union	Current Agreement with:
Local No. 1 New York of the International Union of Bricklayers and Allied Craft Workers	Independent
Local No. 1 New York of the International Union of Bricklayers and Allied Craft Workers	Associated Brick Masons Contractors
Local No. 1 New York of the International Union of Bricklayers and Allied Craft Workers	Building Restoration Contractors Association
Local No. 1 New York of the International Union of Bricklayers and Allied Craft Workers	Building Contractors Association
The Stone Setters of Local No. 1 New York of the International Union of Bricklayers and Allied Craft Workers	Independent
The Plasterers of Local No. 1 New York of the International Union of Bricklayers and Allied Craft Workers	Independent

# NYC AGENCY RENOVATION & REHAB CITY OWNED BUILDINGS/STRUCTURES PLA



## Codes of Conduct

BuildSafeNYC establishes that all BTEA member companies and BCTC member unions establish minimum safety standards on all building construction projects in NYC as follows:

1. The workforce shall adhere to the minimum personal protective equipment (PPE) usage to include:
  - a. ANSI compliant Hard Hats (with ratchet suspension) at all times (supplied by employer)
  - b. Construction-type Work Boots at all times
  - c. Long Pants and shirts with at least short sleeves at all times (no shorts or tank tops)
  - d. ANSI compliant Eye Protection in their possession and used as needed (supplied by employer)
  - e. Adequate Hearing Protection in their possession and used as needed (supplied by employer)
  - f. High-vis traffic vests at street level and when around heavy equipment (supplied by employer)
2. CM and Subcontractor management shall implement a fair and consistent disciplinary policy for all site personnel regarding the adherence to site safety rules and requirements. Likewise, a joint labor / management team will periodically assess project wide implementation of these Codes.
3. CM firms shall maintain minimum standards for workforce restroom, hygiene facilities and housekeeping, initially and throughout the duration of the project.
4. All personnel shall adhere to a strict policy against drug and alcohol possession and use on sites and during hours of work.
5. All personnel shall attend a site safety orientation prior to beginning work. Worker certifications of safety training for specific tasks such as fire watch, flagmen, and safety attendant must be verified.
6. No cell phones, portable media devices, radios or other devices that limit hearing and attention shall be used while working on sites.
7. Ground Fault Circuit Interrupters (GFCI) will be used on all power tools and extension cords.
8. Union trade representatives shall participate in a regularly scheduled site safety meeting on all projects regardless of size.
9. Extreme effort shall be made to isolate the public from all construction activity. Specifically, systems shall be put in place to control falling materials and pedestrian exposure. This should be a top priority for the entire project workforce.
10. Workers shall honor security access control systems to establish entry to sites by authorized personnel only, where applicable.
11. Fall protection management shall be a top project priority. Workers shall maintain and use necessary fall protection systems and procedures where appropriate. Engineering controls and work methods which eliminate, guard, or otherwise control fall hazards shall take priority over personal fall arrest system usage.
12. Where hazardous materials are present, projects shall implement efforts to communicate and control potential exposure to the workforce.

With Full Support and Endorsement of:

*Joseph Colitti*

Joseph J. Colitti, President & CEO  
Building Trades Employers Association  
**BTEANYC**  
The Voice of  
Building Trades Employment Associations

*Edward J. Malley*

Edward J. Malley, President  
Building and Construction Trades Council



*James Abadio*  
Bovini Construction  
*John M. ...*  
Pillar Construction  
*...*  
H&H Local 100 of 10A

*...*  
Turner Construction  
*John ...*  
Cofman Construction

Construction Management Firm  
*...*  
Skanska USA Building  
*...*  
StructureOne

*...*  
Palmar  
*...*  
CHALSWELL NAVIGATE

Trade Unions:

<i>...</i> Local 100 of 10A	<i>...</i> Local 100 of 10A	<i>...</i> Local 100 of 10A	<i>...</i> Local 100 of 10A	<i>...</i> Local 100 of 10A	<i>...</i> Local 100 of 10A
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# 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.

**NEW YORK CITY STANDARD CONSTRUCTION CONTRACT (DEC. 2013)  
INSURANCE RIDER**

The following provisions supersede the corresponding provisions in the December 2013 version of the New York City Standard Construction Contract:

1. Section 22.1.1(c) provides as follows:

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

2. Section 22.3.3 provides as follows:

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

## PAID SICK LEAVE LAW CONTRACT RIDER

### Introduction and General Provisions

The Earned Sick Time Act, also known as the Paid Sick Leave Law ("PSLL"), requires covered employees who annually perform more than 80 hours of work in New York City to be provided with paid sick time.<sup>1</sup> Contractors of the City of New York or of other governmental entities may be required to provide sick time pursuant to the PSLL.

The PSLL became effective on April 1, 2014, and is codified at Title 20, Chapter 8, of the New York City Administrative Code. It is administered by the City's Department of Consumer Affairs ("DCA"); DCA's rules promulgated under the PSLL are codified at Chapter 7 of Title 6 of the Rules of the City of New York ("Rules").

Contractor agrees to comply in all respects with the PSLL and the Rules, and as amended, if applicable, in the performance of this agreement. Contractor further acknowledges that such compliance is a material term of this agreement and that failure to comply with the PSLL in performance of this agreement may result in its termination.

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

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

Pursuant to the PSLL and the Rules:

### Applicability, Accrual, and Use

An employee who works within the City of New York for more than eighty hours in any consecutive 12-month period designated by the employer as its "calendar year" pursuant to the PSLL ("Year") must be provided sick time. Employers must provide a minimum of one hour of sick time for every 30 hours worked by an employee and compensation for such sick time must

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<sup>1</sup> Pursuant to the PSLL, if fewer than five employees work for the same employer, as determined pursuant to New York City Administrative Code §20-912(g), such employer has the option of providing such employees uncompensated sick time.

be provided at the greater of the employee's regular hourly rate or the minimum wage. Employers are not required to provide more than forty hours of sick time to an employee in any Year.

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

An employee entitled to sick time pursuant to the PSSL may use sick time for any of the following:

- such employee's mental illness, physical illness, injury, or health condition or the care of such illness, injury, or condition or such employee's need for medical diagnosis or preventive medical care;
- such employee's care of a family member (an employee's child, spouse, domestic partner, parent, sibling, grandchild or grandparent, or the child or parent of an employee's spouse or domestic partner) who has a mental illness, physical illness, injury or health condition or who has a need for medical diagnosis or preventive medical care;
- closure of such employee's place of business by order of a public official due to a public health emergency; or
- such employee's need to care for a child whose school or childcare provider has been closed due to a public health emergency.

An employer must not require an employee, as a condition of taking sick time, to search for a replacement. However, an employer may require an employee to provide: reasonable notice of the need to use sick time; reasonable documentation that the use of sick time was needed for a reason above if for an absence of more than three consecutive work days; and/or written confirmation that an employee used sick time pursuant to the PSSL. However, an employer may not require documentation specifying the nature of a medical condition or otherwise require disclosure of the details of a medical condition as a condition of providing sick time and health information obtained solely due to an employee's use of sick time pursuant to the PSSL must be treated by the employer as confidential.

If an employer chooses to impose any permissible discretionary requirement as a condition of using sick time, it must provide to all employees a written policy containing those requirements, using a delivery method that reasonably ensures that employees receive the policy. If such employer has not provided its written policy, it may not deny sick time to an employee because of non-compliance with such a policy.

Sick time to which an employee is entitled must be paid no later than the payday for the next regular payroll period beginning after the sick time was used.

### Exemptions and Exceptions

Notwithstanding the above, the PSLL does not apply to any of the following:

- an independent contractor who does not meet the definition of employee under section 190(2) of the New York State Labor Law;
- an employee covered by a valid collective bargaining agreement in effect on April 1, 2014 until the termination of such agreement;
- an employee in the construction or grocery industry covered by a valid collective bargaining agreement if the provisions of the PSLL are expressly waived in such collective bargaining agreement;
- an employee covered by another valid collective bargaining agreement if such provisions are expressly waived in such agreement and such agreement provides a benefit comparable to that provided by the PSLL for such employee;
- an audiologist, occupational therapist, physical therapist, or speech language pathologist who is licensed by the New York State Department of Education and who calls in for work assignments at will, determines his or her own schedule, has the ability to reject or accept any assignment referred to him or her, and is paid an average hourly wage that is at least four times the federal minimum wage;
- an employee in a work study program under Section 2753 of Chapter 42 of the United States Code;
- an employee whose work is compensated by a qualified scholarship program as that term is defined in the Internal Revenue Code, Section 117 of Chapter 20 of the United States Code; or
- a participant in a Work Experience Program (WEP) under section 336-c of the New York State Social Services Law.

### Retaliation Prohibited

An employer may not threaten or engage in retaliation against an employee for exercising or attempting in good faith to exercise any right provided by the PSLL. In addition, an employer may not interfere with any investigation, proceeding, or hearing pursuant to the PSLL.

### Notice of Rights

An employer must provide its employees with written notice of their rights pursuant to the PSLL. Such notice must be in English and the primary language spoken by an employee, provided that DCA has made available a translation into such language. Downloadable notices are available on DCA's website at <http://www.nyc.gov/html/dca/html/law/PaidSickLeave.shtml>.

Any person or entity that willfully violates these notice requirements is subject to a civil penalty in an amount not to exceed fifty dollars for each employee who was not given appropriate notice.

### Records

An employer must retain records documenting its compliance with the PSLL for a period of at least three years, and must allow DCA to access such records in furtherance of an investigation related to an alleged violation of the PSLL.

#### Enforcement and Penalties

Upon receiving a complaint alleging a violation of the PSLL, DCA has the right to investigate such complaint and attempt to resolve it through mediation. Within 30 days of written notification of a complaint by DCA, or sooner in certain circumstances, the employer must provide DCA with a written response and such other information as DCA may request. If DCA believes that a violation of the PSLL has occurred, it has the right to issue a notice of violation to the employer.

DCA has the power to grant an employee or former employee all appropriate relief as set forth in New York City Administrative Code 20-924(d). Such relief may include, among other remedies, treble damages for the wages that should have been paid, damages for unlawful retaliation, and damages and reinstatement for unlawful discharge. In addition, DCA may impose on an employer found to have violated the PSLL civil penalties not to exceed \$500 for a first violation, \$750 for a second violation within two years of the first violation, and \$1,000 for each succeeding violation within two years of the previous violation.

#### More Generous Policies and Other Legal Requirements

Nothing in the PSLL is intended to discourage, prohibit, diminish, or impair the adoption or retention of a more generous sick time policy, or the obligation of an employer to comply with any contract, collective bargaining agreement, employment benefit plan or other agreement providing more generous sick time. The PSLL provides minimum requirements pertaining to sick time and does not preempt, limit or otherwise affect the applicability of any other law, regulation, rule, requirement, policy or standard that provides for greater accrual or use by employees of sick leave or time, whether paid or unpaid, or that extends other protections to employees. The PSLL may not be construed as creating or imposing any requirement in conflict with any federal or state law, rule or regulation.



## HIRING AND EMPLOYMENT RIDER:

### HIRENYC AND REPORTING REQUIREMENTS

#### **Introduction**

This Rider shall apply to all contracts for goods, services, and construction with a value of one million dollars (\$1,000,000.00) or more, provided, however, that certain requirements of the Rider shall only apply as indicated below. This Rider addresses the HireNYC process, including reporting obligations under the HireNYC process, and certain other reporting requirements imposed by law. In general, the HireNYC process under this Rider requires the Contractor to enroll with the HireNYC portal for the City of New York ("the City") found within the Department of Small Business Services's ("SBS") website, to disclose all entry to mid-level job opportunities described in this Rider arising from this contract and located in New York City, and to agree to interview qualified candidates from HireNYC for those opportunities.

#### **HireNYC Requirements**

##### **A. Enrollment**

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

##### **B. Job Posting Requirements**

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

After enrollment through HireNYC and submission of relevant information, SBS will work with the Contractor to develop a recruitment plan which will outline the candidate screening process,

and will provide clear instructions as to when, where, and how interviews will take place. HireNYC will screen applicants based on employer requirements and refer applicants whom it believes are qualified to the Contractor for interviews. The Contractor must interview referred applicants whom it believes are qualified.

After completing an interview of a candidate referred by HireNYC, the Contractor must provide feedback via the portal within twenty (20) business days to indicate which candidates were interviewed and hired, if any. In addition, the Contractor shall provide the start date of new hires, and additional information reasonably related to such hires, within twenty (20) business days after the start date. In the event the Contractor does not have any job openings covered by this Rider in any given year, the Contractor shall be required to provide an annual update to HireNYC to that effect. For this purpose, the reporting year shall run from the date of the registration of the contract and each anniversary date.

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

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

#### C. Breach and Liquidated Damages

If the Contractor fails to comply with the terms of the contract and this Rider (1) by not enrolling its business with HireNYC; (2) by not informing HireNYC, as required, of open positions; or (3) by failing to interview a qualified candidate, the contracting agency may assess liquidated damages in the amount of two-thousand five hundred dollars (\$2,500.00) per breach. For all other events of noncompliance with the terms of this Rider, the agency may assess liquidated damages in the amount of five hundred dollars (\$500) per breach.

Furthermore, in the event the Contractor breaches the requirements of this Rider during the term of the contract, the City may hold the Contractor in default of this contract.

#### Audit Compliance

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

### **Other Reporting Requirements**

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

### **Construction Requirements**

Construction contractors shall comply with the HireNYC requirements set forth above for all non-trades jobs (e.g., for an administrative position arising out of the work of the contract and located in New York City) as set forth above.

In addition, construction contractors shall reasonably cooperate with SBS and the City on specific outreach events, including Hire on the Spot events, for the hiring of trades workers for the work of this contract.

Further, this contract shall be subject to a project labor agreement if so required elsewhere in this contract.

### **Federal Hiring Requirements**

The Contractor shall comply with all federal hiring requirements as may be set forth elsewhere in this contract, including, as applicable:

- Section 3 of the HUD Act of 1968, which requires, to the greatest extent feasible, economic opportunities for 30 percent of new hires be given to low- and very low-income persons, particularly persons who are recipients of HUD assistance for housing.
- Executive Order 11246, which prohibits discrimination in employment due to race, color, religion, sex or national origin, and requires the implementation of goals for minority and female participation for work involving any Construction trade.

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

**INFORMATION FOR BIDDERS**

**December 2013**

## 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, 9<sup>th</sup> Floor, New York, New York 10007. In addition, the bidder must submit a Confirmation of Vendex Compliance to the agency. A form for this confirmation is set forth in the Bid Booklet.

(C) Obtaining Forms: Vendex Questionnaires, as well as detailed instructions, may be obtained at [www.nyc.gov/vendex](http://www.nyc.gov/vendex). The bidder may also obtain Vendex forms and instructions by contacting the Agency Chief Contracting 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.fms.treas.gov/c570/index.html>, and (3) through a computerized public bulletin board, which can be accessed by using your computer modem and dialing 202-874-6887.

(E) Power of Attorney: Attorneys in fact who sign bid, performance, or payment bonds must file with each bond a certified copy of their power of attorney to sign said bonds.

27. Failure to Execute Contract

In the event of failure of the successful bidder to execute the Contract and furnish the required security within ten (10) days after notice of the award of the Contract, the deposit of the successful bidder or so much thereof as shall be applicable to the amount of the award made shall be retained by the City, and the successful bidder shall be liable for and hereby agrees to pay on demand the difference between the price bid and the price for which such Contract shall be subsequently awarded, including the cost of any required reletting and less the amount of such deposit. No plea of mistake in such accepted bid shall be available to the bidder for the recovery of the deposit or as a defense to any action based upon such accepted bid. Further, should the bidder's failure to comply with this Section cause any funding agency, body or group (Federal, State, City, Public, Private, etc.) to terminate, cancel or reduce the funding on this project, the bidder in such event shall be liable also to the City for the amount of actual funding withdrawn by such agency on this project, less the amount of the forfeited deposit.

28. Bidder Responsibilities and Qualifications

(A) Bidders must include with their bids all information necessary for a determination of bidder responsibility, as set forth in the Specifications.

(B) The Agency may require any bidder or prospective bidder to furnish all books of account, records, vouchers, statements or other information concerning the bidder's financial status for examination as may be required by the Agency to ascertain the bidder's responsibility and capability to perform the Contract. If required, a bidder must also submit a sworn statement setting forth such information as the Agency may require concerning present and proposed plant and equipment, the personnel and qualifications of his working organizations, prior experience and performance record.

(C) Oral Examination on Qualifications: In addition thereto, and when directed by the Agency, the bidder, or a responsible officer, agent or employee of the bidder, must submit to an oral examination to be conducted by the Agency in relation to his proposed tentative plan and schedule of operations, and such other matters as the Agency may deem necessary in order to determine the bidder's ability and responsibility to perform the work in accordance with the Contract. Each person so examined must sign and verify a stenographic transcript of such examination noting thereon such corrections as such person may desire to make.

(D) If the bidder fails or refuses to supply any of the documents or information set forth in paragraph (B) hereof or fails to comply with any of the requirements thereof, the Agency may reject the bid.

29. Employment Report

In accordance with Executive Order No. 50 (1980) as modified by Executive Order 108 (1986), the filing of a completed Employment Report (ER) is a requirement of doing business with the City of New York for construction contractors with contracts of \$1,000,000 or more and subcontractors with construction subcontracts of \$750,000 or more. The required forms and information are included in the Bid Booklet.

30. Labor Law Requirements

(A) General: The successful bidder will be required to comply strictly with all Federal, State and local labor laws and regulations.

(B) New York State Labor Law: This Contract is subject to New York State Labor Law Section 220, which requires that construction workers on the site be paid prevailing wages and supplements. The Contractor is reminded that all wage provisions of this Contract will be enforced strictly and failure to comply will be considered when evaluating performance. Noncompliance may result in the contractor being debarred by the City from future contracts. Complaints filed with the Comptroller may result in decisions which may debar a contractor from bidding contracts with any state governmental entity and other political subdivisions.

(C) Records: The Contractor is expected to submit accurate payroll reports and other required documents and verify attendance and job classifications being utilized in compliance with the law, Contract provisions and agency procedures.

31. Insurance

(A) Bidders are advised that the insurance requirements contained herein are regarded as material terms of the Contract. As required by Article 22 of the Contract, the contractor must effect and maintain with companies licensed and authorized to do business in the State of New York, the types of insurance set forth therein, when required by and in the amounts set forth in Schedule A of the General Conditions. Such required insurance must be provided from the date the contractor is ordered to commence work and up to the date of final acceptance of all required work.

(B) The contractor must, within ten days of receipt of the notice of award, submit the following insurance documentation: (a) original certificate of insurance for general liability in the amount required by Schedule A of the General Conditions, and (b) original certificates of insurance or other proof of coverage for workers' compensation and disability benefits, as required by Section 57 of the New York State Workers' Compensation Law and Section 220 of the Disability Benefits Law.

32. Lump Sum Contracts

(A) Comparison of Bids: Bids on Lump Sum Contracts will be compared on the basis of the lump sum price bid, adjusted for alternate prices bid, if any.

(B) Lump Sum Bids for "General Construction Work" which include excavation shall include all necessary excavation work defined in the Specifications as being included in the lump sum bid. The bidder shall also bid a unit price for the additional cost of excavating material which is defined in the Specifications as excavation for which additional payment will be made. The total estimated additional cost of removing such material will be taken as the quantity set forth in the Engineer's Estimate multiplied by the unit price bid. This total estimated cost of additional excavation shall be added to the lump sum bid for the General Construction Work for the purpose of comparing bids to determine the low bidder.

(C) Variations from Engineer's Estimate: The Engineer's Estimate of the quantity of excavation for which additional payment will be made is approximate only and is given solely to be used as a uniform basis for the comparison of bids and such estimate is not to be considered as part of this contract. The quantities actually required to complete the contract work may be more or less than the quantities in the Engineer's Estimate and, if so, no action for damages or for loss of profits shall accrue to the contractor by reason thereof.

33. Unit Price Contracts

(A) Comparison of Bids: Bids on Unit Price Contracts will be compared on the basis of a total estimated price, arrived at by taking the sum of the estimated quantities of such items, in accordance with the Engineer's Estimate of Quantities set forth in the Bid 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 to be considered part of this contract. The quantities actually required to complete the contract work may be less or more than so estimated, and if so, no action for damages or for loss of profits shall accrue to the contractor by reason thereof.

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

34. Excise Tax

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

35. Licenses and Permits

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

36. Multiple Prime Contractors

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

37. Locally Based Enterprise Requirements (LBE)

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

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

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

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

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

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

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

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

(a) the name and address of each LBE that will be given a subcontract,

(b) the percentage, dollar amount and type of work to be subcontracted to the LBE, and

(c) the dates when the LBE subcontract work will commence and end.

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

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

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

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



38. Bid Submission Requirements

The 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**

June 2015

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THE DDC SAFETY REQUIREMENTS INCLUDE THE FOLLOWING SECTIONS:

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

## I. POLICY ON SITE SAFETY

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

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

## II. PURPOSE

The purpose of this policy is to ensure that Contractors perform their work and supervise their employees in accordance with all applicable federal, state and city rules and regulations. Further, Contractors will be expected to minimize or eliminate jobsite and public 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 QA&CS Construction Safety Unit who provides inspection and assessment services to enhance health and safety on all DDC construction projects. The activities of the Construction Safety Auditor include performing site surveys, reviewing health and safety plans, reviewing construction permits, and rendering technical advice and assistance to DDC Resident Engineers and Project Managers.

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

**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").

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

**Daily Safety Job Briefing:** Daily jobsite safety meetings, giving to all jobsite personnel by contractor, with the purpose of discussing project specific safety procedures for the scheduled construction work.

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

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

**Qualified Person:** As defined by OSHA, an individual who, by possession of a recognized degree, certificate, license or professional standing, or who by extensive knowledge, training, and experience, has successfully demonstrated his or her ability to solve problems relating to the subject matter, the work, or the project. Qualified Persons are required under regulation to address issues pertaining, but without limit, to fall protection, scaffold design and trenching and shoring, among others.

**Project Site:** Those areas indicated in the Contract Documents where the Work is to be performed.

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

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

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

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

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

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

**Safety Questionnaire:** Used by DDC to evaluate Contractor's current and past safety performance. It is required to be completed by all Contractors initially when submitting bids for Construction work, or when being pre-qualified and updated annually or as requested by the DDC.

**Site Safety Manager:** For certain projects, as defined in NYC Construction Codes – Title 28, the Contractor shall provide a Site Safety Manager with a Site Safety Manager License issued by the NYC Department of Building.

**Site Safety Plan:** A site-specific safety plan developed by the Contractor for a specific project. The Site Safety Plan must identify hazards associated with the project, and include specific safety procedures and training appropriate and

necessary to complete the work. The Site Safety Plan must be submitted prior to the commencement of work at the site and is subject to review and acceptance by the Construction Safety Unit.

**Unsafe or Unhealthy Condition:** A condition that could be potentially hazardous to the health and safety of personnel or the public, and/or damaging to equipment, machinery, property or the environment.

**Weekly Safety Meetings:** Weekly documented jobsite safety meetings, given to all jobsite personnel by contractor, with the purpose of discussing general safety topics and job specific requirements encountered at the DDC work site.

**Work:** The construction required by the Contract Documents whether completed or partially completed, performed by the Contractor/ subcontractors. Work refers to the furnishing of labor, furnishing and incorporating materials and equipment into the construction and providing any service required by the Contract Documents to fulfill the Contractor's obligation to complete the Project.

#### IV. RESPONSIBILITIES

All persons who manage, perform, and provide support for construction projects shall conduct operations in compliance with the requirements identified in this Policy and all applicable governing regulatory agency requirements and guidelines pertaining to safety in construction.

##### A. DDC or CM Resident Engineer / Construction Project Manager

- Monitors the issuance of safety- related permits, approvals and drawings and maintains copies on site.
- Monitors construction-related work activities to confirm that they are conducted in accordance with DDC policies and all applicable regulations that pertain to construction safety.
- Maintains documentation and periodically attends weekly safety meetings and daily safety job briefings.
- Notifies the Construction Safety Unit and the ACCO's Insurance and Risk Management Unit of project- related accidents and emergencies, as per DDC's Construction Safety Emergency and Accident Notification and Response Protocol.
- Gathers facts related to all accidents and prepares DDC Construction Accident Report.
- Notifies the Construction Safety Unit within two (2) hours of the start of an inspection by any outside regulatory agency personnel, including OSHA, NYC DOB or others and forwards a copy of the inspection report within three days of its receipt.
- Monitors the conditions at the site for conformance with the contractor's Site Safety Plan and DDC construction documents.
- Notifies the contractor and DDC in the event that any condition or activity exists that is not in compliance with the contractor's Site Safety Plan, applicable federal, state or local codes or any condition that presents a potential risk of injury to the public or workers or possible damage to property.
- Notifies DDC of any unsafe or unhealthy condition and directs the contractor to provide such labor, materials, equipment and supervision to abate such conditions.
- Escort and assist QA&CS Construction Safety Auditors during the field and record inspections.
- Reports emergency conditions to the Construction Safety Unit immediately.

##### B. Contractors

- Submit a completed Safety Questionnaire and other safety performance related documentation with its bid or as part of a pre-qualification package.
- Complete a written Job Hazard Analysis (JHA) that identifies safety hazards for project specific work tasks and hazard control methods. A written JHA shall be available at the site for reference and included in the Site Safety Plan submitted by the contractor.
- Submit a Site Safety Plan and Safety Program within 30 days from the Award Date or as otherwise directed. The Site Safety Plan and Safety Program are subject to review and acceptance by the Construction Safety Unit prior to the commencement of work at the site. The Site Safety Plan shall be revised and updated as necessary.

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- Develop project specific safety procedures to protect general public during all construction activities for the duration of the project.
- Ensure that all employees are aware of the hazards associated with the project through documented formal and informal training and/or other communications. Conduct and document weekly safety meetings and daily job briefing sessions for the duration of the project. Documentation to be provided to the RE/CPM on a monthly basis.
- Name the Project Safety Representative and Project Safety Manager, if required. The Contractor will be required to identify the Project Safety Representative and Project Safety Manager in the Site Safety Plan. Resumes, outlining the qualification and experience for the Project Safety Representative and Project Safety Manager, shall be available upon request. DDC reserves the right to request that the Contractor replace any Project Safety Representative or Project Safety Manager for any reason at any time during the project.
- Name a Competent Person(s), The Contractor will be required to identify a Competent Person(s) in the Site Safety Plan.
- Comply with all mandated federal, state and local safety and health rules and regulations.
- Comply with all provisions of the Site Safety Plan.
- Conduct applicable safety training prior to the commencement of work at the site. All training records (OSHA 10-hour, flagger, scaffold, fall protection, confined space entry, etc.) shall be provided to the RE/CPM prior to mobilization, included in the Site Safety Plan, kept current during the course of the project, and available for review. Prior to performing any work on DDC project all employees shall have successfully completed, within the previous five calendar years, a 10 Hour OSHA construction safety course.
- As part of the Site Safety Plan, prepare a site specific programs and plans, such as MPT plan, steel erection plan, confined space program, fall protection plan, demolition plan, etc. (if not otherwise provided in the contract documents) and comply with all of its provisions.
- Conduct and document site-specific safety orientation for Contractor personnel to review the hazards associated with the project as identified in the Site Safety Plan and the specific safety procedures and controls that will be used to protect workers, the general public and property. The Project Safety Representative and/or Project Safety Manager will conduct this training prior to mobilization and provide documentation to the RE/CPM.
- Provide, replace and adequately maintain at or around the project site, suitable and sufficient signage, lights, barricades and enclosures (fences, sidewalk sheds, netting, bracing, etc.).
- Report unsafe or unhealthy conditions to the RE/CPM as soon as practical, but no more than 24 hours after discovery, and take prompt actions to remove or abate such conditions.
- Report any accidents involving injuries to workers or the general public, as well as property damage, to the RE/CPM within one (1) hour.
- Following an accident, the Contractor shall not remove or alter any equipment, structure, material, or evidence related to the accident. Exception: Immediate emergency procedures taken to secure structures, temporary construction, operations, or equipment that pose a continued imminent danger or facilitate assistance for persons who are trapped or who have sustained bodily injury.
- Notify the RE/CPM within one (1) hour of the start of an inspection by any outside regulatory agency personnel, including OSHA, NYC DOB or others.
- Maintain all records pertaining to all required compliance documents and accident and injury reports.
- Address DDC recommendations on safety, which shall in no way relieve the Contractor of its responsibilities for safety on the project. The Contractor has sole responsibility for safety.

#### V. SAFETY QUESTIONNAIRE

DDC requires that all Contractors provide information regarding their current and past safety performance and programs. This will be accomplished by the use of the DDC Safety Questionnaire. As a part of the bid submittal package, the contractor must submit a completed DDC Safety Questionnaire listing company workers' compensation experience modification rating and OSHA Incident Rates for the three (3) years prior to the date of the bid opening. DDC may request a Contractor to update its Questionnaire at any time or to provide more detailed information. The Contractor must provide the requested information within 15 days.

The following criteria will be used by DDC in reviewing the Contractor's responsibility, which will be based on the information provided on the questionnaire:

- Criteria 1: OSHA Injury and Illness Rates (I&IR) are no greater than the average for the industry (based on the most current Bureau of Labor Statistics data for the Contractors SIC code); and
- Criteria 2: Insurance workers compensation Experience Modification Rate (EMR) equal to or less than 1.0; and
- Criteria 3: Any willful violations issued by OSHA or NYC DOB within the last three (3) years; and
- Criteria 4: A fatality (worker or member of public) and injuries, requiring OSHA notification, experienced on or near Contractor's worksite within the last three (3) years; and
- Criteria 5: Past safety performance on DDC projects (accidents; status of safety program and site safety plan submittals; etc.)
- Criteria 6: OSHA violation history for the last three (3) years;
- Criteria 7: Contractor shall provide OSHA Injury and Illness Records (currently OSHA 300 and 300A Logs) for the last three (3) years.

If the Contractor fails to meet the basic criteria listed above, the Construction Safety Unit may request, through the ACCO, more details concerning the Contractor's safety experience. DDC may request the Contractor to provide copies of, among other things, accident investigation reports, OSHA records, OSHA and NYC DOB citations, EPA citations and written corrective action plan.

## VI. SAFETY PROGRAM AND SITE SAFETY PLAN

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

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

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

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- Scaffold – Local Law 52 requirements, installation, use, inspection, dismantling, training and general safety requirements.
- Welding and Cutting
- Electrical Safety
- Fall Protection
- Cranes, Derrick, Hoists, Elevators, Conveyors
- Excavation Safety
- Concrete and Masonry Construction
- Maintenance and Protection of Traffic
- Steel Erection
- Demolition
- Blasting and the Use of Explosives
- Stairways and Ladders
- Toxic and Hazardous Substances
- Alcohol and Drug Abuse Policy
- Rodents and Vermin
- Occupational Noise Exposure
- Confined Space Program – General confined Space Program: training requirements, confined space hazard evaluation procedure, atmospheric testing procedure, confined space classification, permit-required procedure, communication procedure, rescue procedure, forms, etc.
- Construction Vehicles/Heavy Equipment
- Dust Control Procedures

Site Safety Plan: The Site Safety Plan shall be a written document and shall apply to all project specific Contractor and subcontractor operations, and shall have at a minimum, the following elements with each element described in a separate section (It may be necessary to modify the basic format for certain unique or high-risk projects, such as tunnels or high-rise construction):

- Project Work Scope – Detailed information regarding work tasks that will be performed by contractor and subcontractors under the project.
- Responsibility and Organization – Contractor's organization chart with responsible staff for the project, including titles, names, contact information, roles and responsibilities.
- Safety Training and Education – OSHA 10 Hours training, requirements for daily safety briefings and weekly safety meetings, any work task specific training, responsible staff for implementation of training program for the project.
- Job Hazard Analysis (JHA) – Project specific Job Hazard Analysis including work tasks, identified hazards, hazard control methods (administrative, engineering, PPE), contractor's name, project id, location, name and signature of a certifying person, hazard assessment date.
- Protection of Public
- Hazard Corrective Actions – Responsible staff, forms, frequency of safety inspections and implementation of corrective actions.
- Accident/Exposure Investigation – Accident/incident notification procedure of DDC project staff. Project specific procedures for accident investigation and implementation of corrective actions.
- First Aid and Medical Attention – Responsible staff, location and inspection of First Aid kit, directions to local hospitals; emergency telephone numbers.
- Project Specific Fire Protection and Prevention Program.
- Project Specific Illumination Procedure.
- Project Specific Sanitation Procedure.
- Personal Protective Equipment (PPE)
- Hazard Communication Program – Responsible staff; training; SDS records, project specific list of chemical; location of the program and SDS records.
- Means of Egress – Information regarding free and unobstructed egress from all parts of the building or structure; exit marking; maintenance of means of egress, etc.
- Employee Emergency Action Plan – Project specific: responsible staff, emergency alarm system, evacuation procedure, procedure to account for employees after evacuation, etc.
- Evacuation Plan – Project specific evacuation plan (drawing/scheme) with exists and evacuation routes.



- Protection of Underground Facilities and Utilities, including responsible staff.
- Ionizing/Nonionizing Radiation – Competent person, license and qualification requirements, type of radiation, employees exposure and protection, etc.
- Material Handling, Storage, Use and Disposal – Project specific information regarding material storage and disposal.
- Signs, Signals, and Barricades – Use of danger/warning signs, sidewalk closure, safety instruction signs, pedestrian fencing and barricades, etc.
- Scaffold – Project specific scaffold types, training, scaffold drawings, competent person, criteria for project specific scaffold, falling object protection.
- Welding and Cutting – project specific procedure for welding and cutting, including all necessary safety requirements such as fire prevention, personal protective equipment, hot work permits, FDNY certificate requirements.
- Fall Protection – Project specific information regarding selected fall protection systems, fall protection plan.
- Cranes, Derrick, Hoists, Elevators, Conveyors – project specific equipment information including type, rated load capacity, manufacture specification requirements, competent person, exposure to falling load, inspection, recordkeeping, clearance requirements, communication procedure, ground lines, permits.
- Excavation Safety – Competent person, project specific protective system.
- Maintenance and Protection of Traffic Plan – Project specific MPT plan, flagmen training.
- Steel Erection – Site specific erection plan, requirements for applicable written notifications, competent person.
- Demolition – Engineering survey, including written evidence, disconnection of all effected utilities, identification of all hazardous chemicals, materials, gases, etc., floor openings, chutes, inspection and maintenance of all stairs/passageways, removal of materials/debris/structural elements, lock out/tag out, competent person.
- Blasting and the Use of Explosives – Project specific safety procedures, warning signs, training/qualification, transportation, storage and use of explosives, inspection.
- Toxic and Hazardous Substances – Safety procedures for substances to be used on project.
- Noise Mitigation Plan – Completed project specific Noise Mitigation Plan.
- Confined Space Program – Project specific Confined Space Program, responsible staff, training records, equipment information, rescue procedure, list of project specific confined spaces, forms.
- Construction Vehicles/Heavy Equipment – Type of construction vehicles/heavy equipment to be used on site.
- Dust Mitigation Plan – Completed project specific Dust Mitigation Plan.

The most critical component of the Site Safety Plan is the Job Hazard Analysis (JHA) section. The JHA form is a written document prepared by the contractor. The contractor must conduct a site and task assessment JHA to identify the major job steps and any potential safety or environmental hazards related to performance of the work, eliminate or implement controls for the potential hazards, and identify proper personal protective equipment for the task. The JHA shall be communicated to all contractor/subcontractor personnel on site.

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

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

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

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

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

### VIII. EVALUATION DURING WORK IN PROGRESS

The Contractor's adherence to these Safety Requirements will be monitored throughout the project. This will be accomplished by the following:

- A. Use of a safety checklist by a representative of the Construction Safety Unit or other designated DDC representative or Consultant during regular, unannounced inspections of the job site. Field Exit Conferences will be held with the RE/CPM, Contractor Project Safety Representatives.
- B. The RE/CPM will continually monitor the safety and environmental performance of the contractor's employees and work methods. Deficiencies shall be brought to the attention of the contractor's representative on site for immediate correction. The DDC representative will maintain a written record of these deficiencies and have these records available upon request. Any critical deficiencies shall be immediately reported to QA&CS phone# (718) 391-1624 or (718) 391-1911.
- C. If the Contractor's safety performance during the project is not up to DDC standards (safety performance measure, accident/incident rate, etc.) the Director - QA&CS, or his/her designee will meet with the Contractor's Project Safety Representative and or Project Safety Manager, the DDC Project Manager, the RE/CPM, and the DDC Environmental Specialist (if environmental issues are involved). The purpose of this meeting is to 1) determine the level of non-compliance; 2) explain and clarify the safety/environmental provisions; 3) agree on a future course of action to correct the deficiencies.
- D. If the deficiencies continue to occur with inadequate attention by the contractor, this shall, among other remedies available, be grounds for default.
- E. The contractor shall within 1 hour inform the RE/CPM/CM of all accidents/incidents including all fatalities, any injuries to employees or members of the general public, and property damage (e.g., structural damage, equipment rollovers, utility damage, loads dropped from crane). The RE/CPM shall notify the Construction Safety Unit as per DDC's Construction Safety Emergency and Accident Notification and Response Protocol and shall maintain a record of all contractor accidents/incidents for the project.
- F. The Construction Safety Unit shall be notified within two (2) hours of the start of any NYS-DOL/ NYC-COSH/ OSHA/ EPA inspections.

### IX. SAFETY PERFORMANCE EVALUATION

The contractor's safety record, including accident/incident history and DDC safety inspection results, will be considered as part of the Contractor's performance evaluation at the conclusion of the project. Poor safety performance during the course of the project shall be a reason to rate a Contractor unsatisfactory which may be reflected in the City's Vendex system and will be considered for future procurement actions as set forth in the City's Procurement Policy Board Rules.

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**WITNESSETH:**

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

**CHAPTER I  
THE CONTRACT AND DEFINITIONS**

**ARTICLE 1. THE CONTRACT**

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

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

1.1.2 The Contract Drawings and Specifications;

1.1.3 The General Conditions and Special Conditions, if any;

1.1.4 The Contract;

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

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

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

**ARTICLE 2. DEFINITIONS**

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

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

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

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



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

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

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

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

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

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

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

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

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

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

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

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

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

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

- 2.1.18 "**Final Acceptance**" shall mean final written acceptance of all the Work by the Commissioner, a copy of which shall be sent to the Contractor.
- 2.1.19 "**Final Approved Punch List**" shall mean a list, approved pursuant to Article 14.2.2, specifying those items of Work to be completed by the Contractor after Substantial Completion and dates for the completion of each item of Work.
- 2.1.20 "**Law**" or "**Laws**" shall mean the Constitution of the State of New York, the New York City Charter, the New York City Administrative Code, a statute of the United States or of the State of New York, a local law of the City of New York, any ordinance, rule or regulation having the force of law, or common law.
- 2.1.21 "**Materialman**" shall mean any corporation, firm, partnership, joint venture, or individual, other than employees of the Contractor, who or which contracts with the Contractor or any Subcontractor, to fabricate or deliver, or who actually fabricates or delivers, plant, materials or equipment to be incorporated in the Work.
- 2.1.22 "**Means and Methods of Construction**" shall mean the labor, materials, temporary structures, tools, plant, and construction equipment, and the manner and time of their use, necessary to accomplish the result intended by this Contract.
- 2.1.23 "**Notice to Proceed**" or "**Order to Work**" shall mean the written notice issued by the Commissioner specifying the time for commencement of the Work and the Engineer, Architect or Project Manager.
- 2.1.24 "**Other Contractor(s)**" shall mean any contractor (other than the entity which executed this Contract or its Subcontractors) who or which has a contract with the City for work on or adjacent to the building or Site of the Work.
- 2.1.25 "**Payroll Taxes**" shall mean State Unemployment Insurance (SUI), Federal Unemployment Insurance (FUI), and payments pursuant to the Federal Insurance Contributions Act (FICA).
- 2.1.26 "**Project**" shall mean the public improvement to which this Contract relates.
- 2.1.27 "**Procurement Policy Board**" (PPB) shall mean the Agency of the City of New York whose function is to establish comprehensive and consistent procurement policies and rules which shall have broad application throughout the City.
- 2.1.28 "**Required Quantity**" in a unit price Contract shall mean the actual quantity of any item of Work or materials which is required to be performed or furnished in order to comply with the Contract.
- 2.1.29 "**Resident Engineer**" shall mean the representative of the Commissioner duly designated by the Commissioner to be his/her representative at the site of the Work.
- 2.1.30 "**Site**" shall mean the area upon or in which the Contractor's operations are carried on, and such other areas adjacent thereto as may be designated as such by the Engineer.
- 2.1.31 "**Small Tools**" shall mean items that are ordinarily required for a worker's job function, including but not limited to, equipment that ordinarily has no licensing, insurance

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

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

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

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

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

## **CHAPTER II THE WORK AND ITS PERFORMANCE**

### **ARTICLE 3. CHARACTER OF THE WORK**

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

### **ARTICLE 4. MEANS AND METHODS OF CONSTRUCTION**

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

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

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

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

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

## ARTICLE 5. COMPLIANCE WITH LAWS

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

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

5.3 Noise Control Code provisions.

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

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

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

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

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

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

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

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

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

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

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

#### 5.4.2 Ultra Low Sulfur Diesel Fuel

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

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

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

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

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

#### 5.4.3 Best Available Technology

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

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

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

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

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

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

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

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

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

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

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

#### 5.4.5 Compliance

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

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

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

#### 5.4.6 Reporting

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

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

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

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

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

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

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

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

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

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

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

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

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

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



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

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

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

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

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

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

## **ARTICLE 6. INSPECTION**

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

### CHAPTER III TIME PROVISIONS

#### ARTICLE 8. COMMENCEMENT AND PROSECUTION OF THE WORK

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

#### ARTICLE 9. PROGRESS SCHEDULES

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

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

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

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

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

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

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

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

#### ARTICLE 10. REQUESTS FOR INFORMATION OR APPROVAL

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

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

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

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

11.1.1 Within 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](http://www.nyc.gov/pip).<sup>1</sup> For each Subcontractor listed, Contractor is required to provide the following information: maximum contract value, description of Subcontractor's Work, start and end date of the subcontract and identification of the Subcontractor's industry. Thereafter, Contractor will be required to report in the system the payments made to each Subcontractor within 30 days of making the payment. If any of the required information changes throughout the Term of the Contract, Contractor will be required to revise the information in the system.

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

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

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](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, citizenship 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](http://www.nyc.gov/buildings).

#### ARTICLE 71. PROHIBITION OF TROPICAL HARDWOODS

71.1 Tropical hardwoods, as defined in Section 165 of the New York State Finance Law (Finance Law), shall not be utilized in the performance of this Contract except as expressly permitted by Section 165 of the Finance Law.

## ARTICLE 72. CONFLICTS OF INTEREST

72.1 Section 2604 of the City Charter and other related provisions of the City Charter, the Administrative Code, and the Penal Law are applicable under the terms of this Contract in relation to conflicts of interest and shall be extended to Subcontractors authorized to perform Work, labor and services pursuant to this Contract and further, it shall be the duty and responsibility of the Contractor to so inform its respective Subcontractors. Notice is hereby given that, under certain circumstances, penalties may be invoked against the donor as well as the recipient of any form of valuable gift.

## ARTICLE 73. MERGER CLAUSE

73.1 The written Contract herein, contains all the terms and conditions agreed upon by the parties hereto, and no other agreement, oral or otherwise, regarding the subject matter of this Contract shall be deemed to exist or to bind any of the parties hereto, or to vary any of the terms contained herein.

## ARTICLE 74. STATEMENT OF WORK

74.1 The Contractor shall furnish all labor and materials and perform all Work in strict accordance with the Specifications and Addenda thereto, numbered 2.

## 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: *Two Million, Nine Hundred Ninety-Six Thousand, Seven Hundred Dollars, (\$2,996,700.00)*, 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.

## 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](http://www.nyc.gov/buycertified), by emailing DSBS at [buyer@sbs.nyc.gov](mailto:buyer@sbs.nyc.gov), by calling (212) 513-6356, or by visiting or writing DSBS at 110 William St., New York, New York, 10038, 7th floor. Eligible firms that have not yet been certified may contact DSBS in order to seek certification by visiting [www.nyc.gov/getcertified](http://www.nyc.gov/getcertified), emailing [M/WBE@sbs.nyc.gov](mailto:M/WBE@sbs.nyc.gov), or calling the DSBS certification helpline at (212) 513-6311. A firm that is certified as both an MBE and a WBE may be counted either toward the goal for MBEs or the goal for WBEs, but not both. No credit shall be given for participation by a graduate MBE or graduate WBE, as defined in Section 6-129(c)(20).
7. Where an M/WBE Utilization Plan has been submitted, the Contractor shall, with each voucher for payment, and/or periodically as Agency may require, submit statements, certified under penalty of perjury, which shall include, but not be limited to, the total amount the Contractor paid to its direct subcontractors, and, where applicable pursuant to Section 6-129(j), the total amount direct subcontractors paid to indirect subcontractors; the names, addresses and contact numbers of each MBE or WBE hired as a subcontractor by the Contractor, and, where applicable, hired by any of the Contractor's direct subcontractors; and the dates and amounts paid to each MBE or WBE. The Contractor shall also submit, along with its voucher for final payment: the total amount it paid to subcontractors, and, where applicable pursuant to Section 6-129(j), the total amount its direct subcontractors paid directly to their indirect subcontractors; and a final list, certified under penalty of perjury, which shall include the name, address and contact information of each subcontractor that is an MBE or WBE, the work performed by, and the dates and amounts paid to each.
8. If payments made to, or work performed by, MBEs or WBEs are less than the amount specified in the Contractor's M/WBE Utilization Plan, Agency shall take appropriate action, in accordance with Section 6-129 and Article II below, unless the Contractor has obtained a modification of its M/WBE Utilization Plan in accordance with Section 6-129 and Part A, Section 11 below.
9. Where an M/WBE Utilization Plan has been submitted, and the Contractor requests a change order the value of which exceeds the greater of 10 percent of the Contract or Task Order, as applicable, or \$500,000, Agency shall review the scope of work for the Contract or Task Order, as applicable, and the scale and types of work involved in the change order, and determine whether the Participation Goals should be modified.
10. Pre-award waiver of the Participation Goals. (a) A bidder or proposer, or contractor with respect to a Task Order, may seek a pre-award full or partial waiver of the Participation Goals in accordance with Section 6-129, which



requests that Agency change one or more **Participation Goals** on the grounds that the **Participation Goals** are unreasonable in light of the availability of certified firms to perform the services required, or by demonstrating that it has legitimate business reasons for proposing a lower level of subcontracting in its M/WBE Utilization Plan.

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

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

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

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

- (i) The Contractor advertised opportunities to participate in the Contract, where appropriate, in general circulation media, trade and professional association publications and small business media, and publications of minority and women's business organizations;
- (ii) The Contractor provided notice of specific opportunities to participate in the Contract, in a timely manner, to minority and women's business organizations;
- (iii) The Contractor sent written notices, by certified mail or facsimile, in a timely manner, to advise MBEs or WBEs that their interest in the Contract was solicited;
- (iv) The Contractor made efforts to identify portions of the work that could be substituted for portions originally designated for participation by MBEs and/or WBEs in the M/WBE Utilization Plan, and for which the Contractor claims an inability to retain MBEs or WBEs;
- (v) The Contractor held meetings with MBEs and/or WBEs prior to the date their bids or proposals were due, for the purpose of explaining in detail the scope and requirements of the work for which their bids or proposals were solicited;
- (vi) The Contractor made efforts to negotiate with MBEs and/or WBEs as relevant to perform specific subcontracts, or act as suppliers or service providers;
- (vii) Timely written requests for assistance made by the Contractor to Agency's M/WBE liaison officer and to DSBS;

(viii) Description of how recommendations made by DSBS and Agency were acted upon and an explanation of why action upon such recommendations did not lead to the desired level of participation of MBEs and/or WBEs.

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

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

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

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

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

#### **PART B: MISCELLANEOUS**

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

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

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

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

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

#### **ARTICLE II. ENFORCEMENT**

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

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

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

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

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

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

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

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

IN WITNESS WHEREOF, the Commissioner, on behalf of the City of New York, and the Contractor, have executed this agreement in quadruplicate, two parts of which are to remain with the Commissioner, another to be filed with the Comptroller of the City, and the fourth to be delivered to the Contractor.

THE CITY OF NEW YORK

By: *Shaw J*  
Dep. Commissioner

CONTRACTOR: SIBA Contracting Corp.

By: *Alfred W. Konds*  
(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 NY County of Queens ss:

On this 11th day of December 2017, before me personally came Mr. Stephen Haidin to me known, who, being by me duly sworn did depose and say that he resides at 436 111st St Melville, NY 11747 that he is the President of the corporation described in and which executed the foregoing instrument; that he knows the seal of said corporation; that one of the seals affixed to said instrument is such seal; that it was so affixed by order of the directors of said corporation, and that he signed his name thereto by like order.

VICTORIA AYO-VAUGHAN  
Notary Public, State of New York  
Registration #01AY5014042  
Qualified in Queens County  
Commission Expires July 15, 2019

[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:

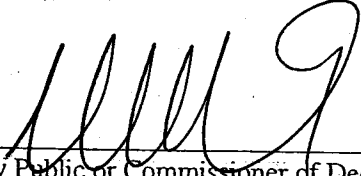
On this \_\_\_\_\_ day of \_\_\_\_\_, before me personally appeared \_\_\_\_\_ to me known, and known to me to be the person described in and who executed the foregoing instrument; and acknowledged that he executed the same.

\_\_\_\_\_  
Notary Public or Commissioner of Deeds

ACKNOWLEDGMENT BY COMMISSIONER

State of New York County of Queens ss:

On this 11th day of December 2017, before me personally came Thomas Foley 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, 2019

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

Two Million, Nine Hundred Ninety-Six Thousand,  
Seven Hundred

Dollars (\$ 2,996,700.00 )

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.

Shaw J  
Dep. 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.**

Bond #B10 030 158  
Issued in Duplicate

PERFORMANCE BOND #1 (Page 1)

PERFORMANCE BOND #1

KNOW ALL PERSONS BY THESE PRESENTS, That we, SIBA CONTRACTING CORP  
1815 Harrison Avenue, Bay Shore, NY 11706

hereinafter referred to as the "Principal", and Aegis Security Insurance Company, 4507 North Front Street, Suite 200  
Harrisburg, PA 17110

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

Two Million Nine Hundred Ninety Six Thousand Seven Hundred Dollars

(\$2,996,700.00) Dollars, lawful money of the United States, for the payment of which said sum of money well and truly to be made, we, and each of us, bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal is about to enter, or has entered, into a Contract in writing with the City for

FMS ID: PWD99WNY1, E-PIN 85016B0070, DDC PIN: 8502016HR0005C

"CENTER FOR THE WOMEN OF NEW YORK RENOVATION - BOROUGH OF QUEENS"

a copy of which Contract is annexed to and hereby made a part of this bond as though herein set forth in full;

**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 8th day of December, 2017**

(Seal)

**SIBA CONTRACTING CORP (L.S.)**

**Principal**

By: [Signature]

**Iqbal Haider, President**

**Aegis Security Insurance Company**

(Seal)

**Surety**

By: [Signature]

**Emanuel Hadjigeorge, Attorney-In-Fact**

(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 New York County of Suffolk ss:

On this 8<sup>th</sup> day of December 2017, before me personally came Iftokhar Haider to me known, who, being by me duly sworn did depose and say that he resides at Melville NY that he is the President of the corporation described in and which executed the foregoing instrument; that he knows the seal of said corporation; that one of the seals affixed to said instrument is such seal; that it was so affixed by order of the directors of said corporation, and that he signed his name thereto by like order.

Sabuh Ali Khan  
Notary Public or Commissioner of Deeds

SABUHI ALIKHAN  
NOTARY PUBLIC-STATE OF NEW YORK  
No. 01AL6246410  
Qualified in Suffolk County  
My Commission Expires August 08, 2019

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

ACKNOWLEDGMENT OF CORPORATE SURETY

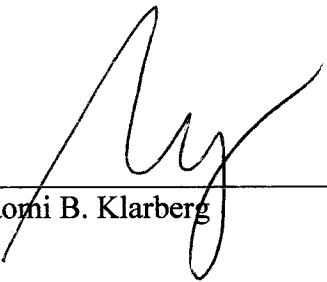
STATE OF NEW YORK )

ss:

COUNTY OF WESTCHESTER )

On this 8th day of December, 2017 before me appeared Emanuel Hatjygeorge to me personally known, who being by me duly sworn, did say that the is the aforesaid officer or attorney in fact of the Aegis Security Insurance Company, a corporation; that the seal affixed to the foregoing instrument is the corporate seal of said corporation, and that said instrument was signed and sealed in behalf of said corporation by the aforesaid officer, by authority of its Board of Directors and the aforesaid officer acknowledged said instrument to be the free act and deed of said corporation.

Naomi B. Klarberg  
Notary Public – State of New York  
No. 01KL6365565  
Qualified in Westchester County  
My Commission Expires 10/10/2021

  
\_\_\_\_\_  
Naomi B. Klarberg

ACKNOWLEDGMENT OF PRINCIPAL, IF A CORPORATION

STATE OF \_\_\_\_\_ )

ss:

COUNTY OF \_\_\_\_\_ )

On the \_\_\_\_\_ day of \_\_\_\_\_ in the year 2017, before me personally came \_\_\_\_\_ to me known, who, being by me duly sworn, did depose and say that (s)he resides at \_\_\_\_\_, that (s)he is the \_\_\_\_\_ of \_\_\_\_\_, the corporation described in and which executed the above instrument; and that (s)he signed her/his name thereto by order of the Board of Directors of said corporation.

My Commission Expires

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

**THIS POWER NULL AND VOID IF NUMBER IS NOT IN RED  
POWER CERTIFICATE NO. NY 099**

**AEGIS SECURITY INSURANCE COMPANY  
POWER OF ATTORNEY**

**KNOW ALL MEN BY THESE PRESENTS, THAT AEGIS SECURITY INSURANCE COMPANY** does hereby make, constitute and appoint: **PRAXITELIS E. HATJYGEORGE, EMANUEL HATJYGEORGE**

its true and lawful Attorney-in-Fact, to make, execute and deliver on its behalf surety bonds, undertaking and other instruments of similar nature as follows: **\$5 MILLION**

This Power of Attorney is granted and sealed under and by the authority of the following Resolution adopted by the Board of Directors of the Company on the 4<sup>th</sup> day of February, 1993.

**Resolved,** That the President, any Vice President, the Secretary and any Assistant Secretary appointed for that purpose by the officer in charge of surety operations shall each have authority to appoint individuals as Attorney-in-Fact or under other appropriate titles with authority to execute on behalf of the Company, fidelity and surety bonds and other documents of similar character issued by the Company in the course of its business. On any instrument making or evidencing such an appointment, the signatures may be affixed by facsimile. On any instrument conferring such authority or on any bond or undertaking of the Company, the seal or facsimile thereof may be imposed or fixed or in any other manner reproduced; provided, however, that the seal shall not be necessary to the validity of any such instrument or undertaking."

**Resolved,** That the signature of each of the following officers; President, Vice President, any Assistant Vice President, any Secretary or Assistant Secretary and the seal of the Company may be affixed by facsimile to any Power of Attorney or to any Certificate relating thereto, appointing Resident Vice Presidents, Resident Assistant Secretaries or Attorneys-in-Fact for the purpose only of executing and attesting bonds and undertaking and other writings upon the Company and any such power required and certified by such facsimile signature and facsimile seal shall be valid and binding on the Company in the future with respect to any bond or undertaking to which it is attached."

**IN WITNESS WHEREOF, AEGIS SECURITY INSURANCE COMPANY** has caused its official seal to be hereunto affixed, and these presents to be signed by its President this 5<sup>th</sup> day of July, 2017.

AEGIS SECURITY INSURANCE COMPANY

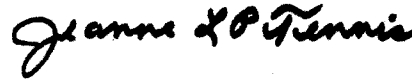
By:



W. J. WOLLYUNG, III  
President

Commonwealth of Pennsylvania }  
County of Dauphin } s.s.: Harrisburg

On this 5<sup>th</sup> day of July, 2017, before me personally came William J. Wollyung, III to me known, who being by me duly sworn, did depose and say that he is President of **AEGIS SECURITY INSURANCE COMPANY**, the corporation described herein and which executed the above instrument; that he knows the seal of the said corporation, that the seal affixed to the said instrument is such corporate seal; that it was so affixed by order of the Board of Directors of said corporation and that he signed his name thereto by like order.

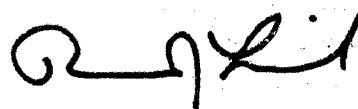


JEANNE LP TENNIS  
Notary Public  
My Commission Expires June 16, 2021



I, the undersigned, Secretary of **AEGIS SECURITY INSURANCE COMPANY**, a Pennsylvania corporation, **DO HEREBY CERTIFY** that the foregoing and attached Power of Attorney remains in full force and has not been revoked: and furthermore that the Resolution of the Board of Directors, set forth in the said Power of Attorney, is now in force.

Signed and sealed at the City of Harrisburg, in the Commonwealth of Pennsylvania, dated this 8<sup>th</sup> day of *December, 2017*



REBECCA J. LIDDICK  
Secretary



**AEGIS SECURITY INSURANCE COMPANY**  
**STATEMENTS OF ADMITTED ASSETS, LIABILITIES, CAPITAL AND SURPLUS - STATUTORY BASIS**

	As of December 31,	
	2016	2015
<b>Admitted Assets</b>		
Bonds	\$ 50,929,359	\$ 48,627,914
Preferred stocks	446,212	500,200
Common stocks - non-affiliate	8,406,062	11,178,670
Common stocks - affiliate	16,949,467	15,818,252
Real estate occupied by the Company, net	-	2,153,047
Cash and short-term investments	12,732,874	11,907,020
Other invested assets	3,750,000	908,157
	<u>93,213,974</u>	<u>91,093,260</u>
Accrued investment income	482,598	451,224
Premium receivable	26,115,723	14,038,030
Reinsurance recoverable on paid losses	3,450,058	2,292,443
Federal income tax receivable	467,965	1,204,940
Net admitted deferred tax asset	3,665,301	2,428,736
Other assets	35,311	48,744
Receivable from parent, subsidiaries and affiliates	6,700	173,000
<b>Total assets</b>	<u>\$ 127,437,630</u>	<u>\$ 111,730,377</u>
<b>Liabilities, Capital and Surplus</b>		
<b>Liabilities:</b>		
Losses and LAE	\$ 23,278,093	\$ 18,954,753
Reinsurance payable on paid loss and LAE	345,036	390,320
Unearned premiums	32,215,782	25,915,526
Commissions payable	868,762	713,492
Accounts payable and accrued expenses	520,097	783,236
Taxes, licenses and fees payable	806,060	756,684
Ceded reinsurance premiums payable	9,283,899	2,658,726
Funds held under reinsurance treaties	2,346	-
Amounts withheld for account of others	4,570,068	4,915,625
Payable for securities	7,422	198,015
	<u>71,897,565</u>	<u>55,286,377</u>
<b>Capital and surplus:</b>		
Common stock, par value \$1.40 per share; 5,000,000 shares authorized; 3,000,000 issued and outstanding	4,200,000	4,200,000
Paid-in surplus	5,266,827	5,266,827
Unassigned funds	46,073,238	46,977,173
<b>Total capital and surplus</b>	<u>55,540,065</u>	<u>56,444,000</u>
<b>Total liabilities, capital and surplus</b>	<u>\$ 127,437,630</u>	<u>\$ 111,730,377</u>

PERFORMANCE BOND #2

KNOW ALL PERSONS BY THESE PRESENTS, That we, \_\_\_\_\_

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

hereinafter referred to as the "Principal", and \_\_\_\_\_

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

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

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

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

WHEREAS, the Principal is about to enter, or has entered, into a Contract in writing with the City for

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

a copy of which Contract is annexed to and hereby made a part of this bond as though herein set forth in full;



**NOW, THEREFORE**, the conditions of this obligation are such that if the Principal, his or its representatives or assigns, shall well and faithfully perform the said Contract and all modifications, amendments, additions and alterations thereto that may hereafter be made, according to its terms and its true intent and meaning, including repair and or replacement of defective work and guarantees of maintenance for the periods stated in the Contract, and shall fully indemnify and save harmless the City from all cost and damage which it may suffer by reason of the Principal's default of the Contract, and shall fully reimburse and repay the City for all outlay and expense which the City may incur in making 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.

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.**

Bond #B10 030 158  
Issued in Duplicate

**PAYMENT BOND (Page 1)**

**PAYMENT BOND**

**KNOW ALL PERSONS BY THESE PRESENTS, That we, SIBA CONTRACTING CORP**

1815 Harrison Avenue, Bay Shore, NY 11706

hereinafter referred to as the "Principal", and Aegis Security Insurance Company, 4507 North Front Street, Suite 200

Harrisburg, PA 17110

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

Two Million Nine Hundred Ninety Six Thousand Seven Hundred Dollars

(\$ 2,996,700.00 ) Dollars, lawful money of the United States, for the payment of which said sum of money well and truly to be made, we, and each of us, bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal is about to enter, or has entered, into a Contract in writing with the City for

FMS ID: PWD99WNY1, E-PIN 85016B0070, DDC PIN: 8502016HR0005C

"CENTER FOR THE WOMEN OF NEW YORK RENOVATION - BOROUGH OF QUEENS"

a copy of which Contract is annexed to and hereby made a part of this bond as though herein set forth in full;

NOW, THEREFORE, the conditions of this obligation are such that if the Principal, his or its representatives or assigns and other Subcontractors to whom Work under this Contract is sublet and his or their successors and assigns shall promptly pay or cause to be paid all lawful claims for

(a) Wages and compensation for labor performed and services rendered by all persons engaged in the prosecution of the Work under said Contract, and any amendment or extension thereof or addition thereto, whether such persons be agents servants or employees of the Principal or any such Subcontractor, including all persons so

**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 hereto 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 8th day of December, 2017

(Seal)

**SIBA CONTRACTING COPR (L.S.)**

**Principal**

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

Ifekhar Haider, President

Aegis Security Insurance Company

(Seal)

**Surety**

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

Emanuel Hajigeorge, Attorney-In-Fact

(Seal)

**Surety**

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

(Seal)

**Surety**

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

(Seal)

**Surety**

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

If the Contractor (Principal) is a partnership, the bond should be signed by each of the individuals who are partners.

If the Contractor (Principal) is a corporation, the bond should be signed in its correct corporate name by a duly authorized officer, agent, or attorney-in-fact.

There should be executed an appropriate number of counterparts of the bond corresponding to the number of counterparts of the Contract.

Payment Bond (Pages 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 New York County of Suffolk ss:

On this 8<sup>th</sup> day of December, 2017 before me personally came Iftakhar Haider to me known, who, being by me duly sworn did depose and say that he resides at Melville, NY

\_\_\_\_\_ that he is the President of the corporation described in and which executed the foregoing instrument; that he knows the seal of said corporation; that one of the seals affixed to said instrument is such seal; that it was so affixed by order of the directors of said corporation, and that he signed his name thereto by like order.

Saleem Olickian  
Notary Public or Commissioner of Deeds

SABUHI ALIKHAN  
NOTARY PUBLIC-STATE OF NEW YORK  
No. 01AL6246410  
Qualified in Suffolk County  
My Commission Expires August 08, 2019

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

ACKNOWLEDGMENT OF CORPORATE SURETY

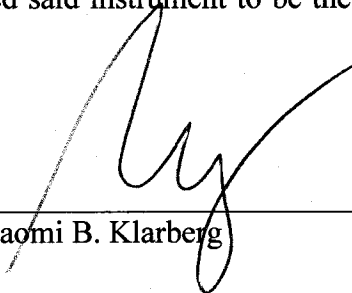
STATE OF NEW YORK )

ss:

COUNTY OF WESTCHESTER )

On this 8th day of December, 2017 before me appeared Emanuel Hatjygeorge to me personally known, who being by me duly sworn, did say that the is the aforesaid officer or attorney in fact of the Aegis Security Insurance Company, a corporation; that the seal affixed to the foregoing instrument is the corporate seal of said corporation, and that said instrument was signed and sealed in behalf of said corporation by the aforesaid officer, by authority of its Board of Directors and the aforesaid officer acknowledged said instrument to be the free act and deed of said corporation.

Naomi B. Klarberg  
Notary Public – State of New York  
No. 01KL6365565  
Qualified in Westchester County  
My Commission Expires 10/10/2021

  
\_\_\_\_\_  
Naomi B. Klarberg

ACKNOWLEDGMENT OF PRINCIPAL, IF A CORPORATION

STATE OF \_\_\_\_\_ )

ss:

COUNTY OF \_\_\_\_\_ )

On the \_\_\_\_\_ day of \_\_\_\_\_ in the year 2017, before me personally came \_\_\_\_\_ to me known, who, being by me duly sworn, did depose and say that (s)he resides at \_\_\_\_\_, that (s)he is the \_\_\_\_\_ of \_\_\_\_\_, the corporation described in and which executed the above instrument; and that (s)he signed her/his name thereto by order of the Board of Directors of said corporation.

My Commission Expires

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



**THIS POWER NULL AND VOID IF NUMBER IS NOT IN RED  
POWER CERTIFICATE NO. NY 099**

**AEGIS SECURITY INSURANCE COMPANY  
POWER OF ATTORNEY**

KNOW ALL MEN BY THESE PRESENTS, THAT AEGIS SECURITY INSURANCE COMPANY does hereby make, constitute and appoint: PRAXITELIS E. HATJYGEORGE, EMANUEL HATJYGEORGE

its true and lawful Attorney-in-Fact, to make, execute and deliver on its behalf surety bonds, undertaking and other instruments of similar nature as follows: \$5 MILLION

This Power of Attorney is granted and sealed under and by the authority of the following Resolution adopted by the Board of Directors of the Company on the 4<sup>th</sup> day of February, 1993.

**Resolved,** That the President, any Vice President, the Secretary and any Assistant Secretary appointed for that purpose by the officer in charge of surety operations shall each have authority to appoint individuals as Attorney-in-Fact or under other appropriate titles with authority to execute on behalf of the Company, fidelity and surety bonds and other documents of similar character issued by the Company in the course of its business. On any instrument making or evidencing such an appointment, the signatures may be affixed by facsimile. On any instrument conferring such authority or on any bond or undertaking of the Company, the seal or facsimile thereof may be imposed or fixed or in any other manner reproduced; provided, however, that the seal shall not be necessary to the validity of any such instrument or undertaking."

**Resolved,** That the signature of each of the following officers; President, Vice President, any Assistant Vice President, any Secretary or Assistant Secretary and the seal of the Company may be affixed by facsimile to any Power of Attorney or to any Certificate relating thereto, appointing Resident Vice Presidents, Resident Assistant Secretaries or Attorneys-in-Fact for the purpose only of executing and attesting bonds and undertaking and other writings upon the Company and any such power required and certified by such facsimile signature and facsimile seal shall be valid and binding on the Company in the future with respect to any bond or undertaking to which it is attached."

IN WITNESS WHEREOF, AEGIS SECURITY INSURANCE COMPANY has caused its official seal to be hereunto affixed, and these presents to be signed by its President this 5<sup>th</sup> day of July, 2017.

AEGIS SECURITY INSURANCE COMPANY

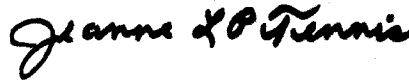
By:



W. J. WOLLYUNG, III  
President

Commonwealth of Pennsylvania }  
County of Dauphin } s.s.: Harrisburg

On this 5<sup>th</sup> day of July, 2017, before me personally came William J. Wollyung, III to me known, who being by me duly sworn, did depose and say that he is President of AEGIS SECURITY INSURANCE COMPANY, the corporation described herein and which executed the above instrument; that he knows the seal of the said corporation, that the seal affixed to the said instrument is such corporate seal; that it was so affixed by order of the Board of Directors of said corporation and that he signed his name thereto by like order.

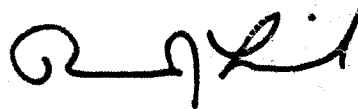


JEANNE LP TENNIS  
Notary Public  
My Commission Expires June 16, 2021



I, the undersigned, Secretary of AEGIS SECURITY INSURANCE COMPANY, a Pennsylvania corporation, DO HEREBY CERTIFY that the foregoing and attached Power of Attorney remains in full force and has not been revoked: and furthermore that the Resolution of the Board of Directors, set forth in the said Power of Attorney, is now in force.

Signed and sealed at the City of Harrisburg, in the Commonwealth of Pennsylvania, dated this 8<sup>th</sup> day of December, 2017



REBECCA J. LIDDICK  
Secretary



**AEGIS SECURITY INSURANCE COMPANY**  
**STATEMENTS OF ADMITTED ASSETS, LIABILITIES, CAPITAL AND SURPLUS - STATUTORY BASIS**

	As of December 31,	
	2016	2015
<b>Admitted Assets</b>		
Bonds	\$ 50,929,359	\$ 48,627,914
Preferred stocks	446,212	500,200
Common stocks - non-affiliate	8,406,062	11,178,670
Common stocks - affiliate	16,949,467	15,818,252
Real estate occupied by the Company, net	-	2,153,047
Cash and short-term investments	12,732,874	11,907,020
Other invested assets	3,750,000	908,157
<b>Total cash and invested assets</b>	<b>93,213,974</b>	<b>91,093,260</b>
Accrued investment income	482,598	451,224
Premium receivable	26,115,723	14,038,030
Reinsurance recoverable on paid losses	3,450,058	2,292,443
Federal income tax receivable	467,965	1,204,940
Net admitted deferred tax asset	3,665,301	2,428,736
Other assets	35,311	48,744
Receivable from parent, subsidiaries and affiliates	6,700	173,000
<b>Total assets</b>	<b>\$ 127,437,630</b>	<b>\$ 111,730,377</b>
<b>Liabilities, Capital and Surplus</b>		
<b>Liabilities:</b>		
Losses and LAE	\$ 23,278,093	\$ 18,954,753
Reinsurance payable on paid loss and LAE	345,036	390,320
Unearned premiums	32,215,782	25,915,526
Commissions payable	868,762	713,492
Accounts payable and accrued expenses	520,097	783,236
Taxes, licenses and fees payable	806,060	756,684
Ceded reinsurance premiums payable	9,283,899	2,658,726
Funds held under reinsurance treaties	2,346	-
Amounts withheld for account of others	4,570,068	4,915,625
Payable for securities	7,422	198,015
<b>Total liabilities</b>	<b>71,897,565</b>	<b>55,286,377</b>
<b>Capital and surplus:</b>		
Common stock, par value \$1.40 per share; 5,000,000 shares authorized; 3,000,000 issued and outstanding	4,200,000	4,200,000
Paid-in surplus	5,266,827	5,266,827
Unassigned funds	46,073,238	46,977,173
<b>Total capital and surplus</b>	<b>55,540,065</b>	<b>56,444,000</b>
<b>Total liabilities, capital and surplus</b>	<b>\$ 127,437,630</b>	<b>\$ 111,730,377</b>



# CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)  
12/11/2017

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

**IMPORTANT:** If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER <b>BIG APPLE INSURANCE BROKERAGE INC</b> 14315 Hillside Ave Jamaica, NY 11435	CONTACT NAME: <b>LUCKY KAUR</b>	
	PHONE (A/C No. Ext): <b>(718) 739-7500</b>	FAX (A/C No.): <b>(718) 206-266</b>
E-MAIL ADDRESS: <b>lucky@bigappleinsurance.nyc</b>		
INSURER(S) AFFORDING COVERAGE		NAIC#
INSURER A:	<b>WESCO INSURANCE COMPANY</b>	<b>25011</b>
INSURER B:	<b>STATE FARM AUTOMOBILE INSURANCE</b>	<b>25143</b>
INSURER C:	<b>ACE PROPERTY &amp; CASUALTY INS</b>	<b>20699</b>
INSURER D:	<b>GREAT AMERICAN INSURANCE COMPANY</b>	<b>16691</b>
INSURER E:		
INSURER F:		

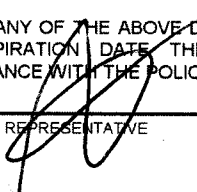
COVERAGES CERTIFICATE NUMBER: REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
A	<input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY			WPP1400035-00	10/9/17	10/9/18	EACH OCCURRENCE \$ 2,000,000
	<input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR						DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 100,000
							MED EXP (Any one person) \$ 10,000
							PERSONAL & ADV INJURY \$ 1,000,000
							GENERAL AGGREGATE \$ 2,000,000
							PRODUCTS - COMP/OP AGG \$ 2,000,000
							\$
B	AUTOMOBILE LIABILITY			52-9F88N007	07/06/17	07/06/18	COMBINED SINGLE LIMIT (Ea accident) \$ 1,000,000
	<input checked="" type="checkbox"/> ANY AUTO OWNED AUTOS ONLY <input checked="" type="checkbox"/> SCHEDULED AUTOS NON-OWNED AUTOS ONLY						BODILY INJURY (Per person) \$ 1,000,000
	<input checked="" type="checkbox"/> HIRED AUTOS ONLY						BODILY INJURY (Per accident) \$ 1,000,000
							PROPERTY DAMAGE (Per accident) \$
							\$
C	<input checked="" type="checkbox"/> UMBRELLA LIAB <input checked="" type="checkbox"/> EXCESS LIAB			UMBNY113520301	6/05/17	6/05/18	EACH OCCURRENCE \$ 5,000,000
	<input type="checkbox"/> CLAIMS-MADE						AGGREGATE \$ 5,000,000
	DED RETENTION \$ 10,000						\$
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY						PER STATUTE OTH-ER
	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH)	<input type="checkbox"/>	N/A				E.L. EACH ACCIDENT \$
	If yes, describe under DESCRIPTION OF OPERATIONS below						E.L. DISEASE - EA EMPLOYEE \$
							E.L. DISEASE - POLICY LIMIT \$
D	BUILDERS RISK			120617	12/06/17	12/06/18	2,996,700 LIMITS

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

**THE CITY OF NEW YORK, INCLUDING ITS OFFICIALS AND ITS OFFICIALS AND EMPLOYEES ALONG WITH PAGEAYRES COWLEYS ARCHITECTS, LLC ARE NAMED AS ADDITIONAL INSURED**

<b>CERTIFICATE HOLDER</b> Department of Design and Construction 30-30 Thomson Avenue Long Island City, NY 11101	<b>CANCELLATION</b> SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.
	AUTHORIZED REPRESENTATIVE 

**SCHEDULE A (FOR PUBLICLY BID PROJECTS)**

**Relating to Article 22 - Insurance**

**PART III. Certification by Insurance Broker or Agent**

The undersigned insurance broker or agent represents to the City of New York that the attached Certificate of Insurance is accurate in all material respects.

BIG APPLE INSURANCE BROKERAGE

[Name of broker or agent (typewritten)]

143-15 HILLSIDE AVE JAMAICA NY 11435

[Address of broker or agent (typewritten)]

LUCKY@BIGAPPLEINSURANCE.NYC

[Email address of broker or agent (typewritten)]

718-739-7500 / 718-206-2667

[Phone number/Fax number of broker or agent (typewritten)]

  
[Signature of authorized official or broker or agent]

SHAHID HASSAN - VICE PRESIDENT

[Name and title of authorized official, broker or agent (typewritten)]

State of New York )  
County of Queens ) ss:

Sworn to before me this  
6<sup>th</sup> day of December, 2017

  
NOTARY PUBLIC FOR THE STATE OF New York

LAKHWINDER KAUR  
Notary Public, State of New York  
No. 01KA6170796  
Qualified in Queens County  
Commission Expires July 23, 2019



**Workers' Compensation Board**

**CERTIFICATE OF NYS WORKERS' COMPENSATION INSURANCE COVERAGE**

<p>1a. Legal Name &amp; Address of Insured (use street address only)</p> <p>SIBA CONTRACTING CORP. 1815 HARRISON AVE BAY SHORE NY 11706-1010</p> <p>Work Location of Insured (Only required if coverage is specifically limited to certain locations in New York State, i.e., a Wrap-Up Policy)</p>	<p>1b. Business Telephone Number of Insured</p> <p>914-315-1758</p> <p>1c. NYS Unemployment Insurance Employer Registration Number of Insured</p> <p>1d. Federal Employer Identification Number of Insured or Social Security Number</p> <p>20-1455153</p>
<p>2. Name and Address of Entity Requesting Proof of Coverage (Entity Being Listed as the Certificate Holder)</p> <p>Department of Design and Construction 30-30 Thomson Avenue Long Island City, NY 11101</p>	<p>3a. Name of Insurance Carrier</p> <p>State Farm Fire &amp; Casualty Insurance.</p> <p>3b. Policy Number of Entity Listed in Box "1a"</p> <p>92-CC-D469-6</p> <p>3c. Policy effective period</p> <p>10-05-2017 to 10-05-2018</p> <p>3d. The Proprietor, Partners or Executive Officers are</p> <p><input type="checkbox"/> included. (Only check box if all partners/officers included)</p> <p><input checked="" type="checkbox"/> all excluded or certain partners/officers excluded.</p>

This certifies that the insurance carrier indicated above in box "3" insures the business referenced above in box "1a" for workers' compensation under the New York State Workers' Compensation Law. **(To use this form, New York (NY) must be listed under Item 3A on the INFORMATION PAGE of the workers' compensation insurance policy).** The Insurance Carrier or its licensed agent will send this Certificate of Insurance to the entity listed above as the certificate holder in box "2".

Will the carrier notify the certificate holder within 10 days of a policy being cancelled for non-payment of premium or within 30 days if cancelled for any other reason or if the insured is otherwise eliminated from the coverage indicated on this certificate prior to the end of the policy effective period?  YES  NO

This certificate is issued as a matter of information only and confers no rights upon the certificate holder. This certificate does not amend, extend or alter the coverage afforded by the policy listed, nor does it confer any rights or responsibilities beyond those contained in the referenced policy.

This certificate may be used as evidence of a Workers' Compensation contract of insurance only while the underlying policy is in effect.

**Please Note: Upon cancellation of the workers' compensation policy indicated on this form, if the business continues to be named on a permit, license or contract issued by a certificate holder, the business must provide that certificate holder with a new Certificate of Workers' Compensation Coverage or other authorized proof that the business is complying with the mandatory coverage requirements of the New York State Workers' Compensation Law.**

**Under penalty of perjury, I certify that I am an authorized representative or licensed agent of the insurance carrier referenced above and that the named insured has the coverage as depicted on this form.**

Approved by: Colleen Donahue  
(Print name of authorized representative or licensed agent of insurance carrier)

Approved by: Colleen Donahue 12/11/2017  
(Signature) (Date)

Title: Agent

Telephone Number of authorized representative or licensed agent of insurance carrier: 718-297-5200

**Please Note: Only insurance carriers and their licensed agents are authorized to issue Form C-105.2. Insurance brokers are NOT authorized to issue it.**

## **Workers' Compensation Law**

### **Section 57. Restriction on issue of permits and the entering into contracts unless compensation is secured.**

1. The head of a state or municipal department, board, commission or office authorized or required by law to issue any permit for or in connection with any work involving the employment of employees in a hazardous employment defined by this chapter, and notwithstanding any general or special statute requiring or authorizing the issue of such permits, shall not issue such permit unless proof duly subscribed by an insurance carrier is produced in a form satisfactory to the chair, that compensation for all employees has been secured as provided by this chapter. Nothing herein, however, shall be construed as creating any liability on the part of such state or municipal department, board, commission or office to pay any compensation to any such employee if so employed.
2. The head of a state or municipal department, board, commission or office authorized or required by law to enter into any contract for or in connection with any work involving the employment of employees in a hazardous employment defined by this chapter, notwithstanding any general or special statute requiring or authorizing any such contract, shall not enter into any such contract unless proof duly subscribed by an insurance carrier is produced in a form satisfactory to the chair, that compensation for all employees has been secured as provided by this chapter.



**CERTIFICATE OF INSURANCE COVERAGE UNDER THE NYS DISABILITY BENEFITS LAW**

**PART 1. To be completed by Disability Benefits Carrier or Licensed Insurance Agent of that Carrier**

<p>1a. Legal Name &amp; Address of Insured (use street address only) SIBA CONTRACTING CORP 1815 Herrison Avenue  Bayshore, NY 11706</p> <p>Work Location of Insured (Only required if coverage is specifically limited to certain locations in New York State, i.e., a Wrap-Up Policy)</p>	<p>1b. Business Telephone Number of Insured (914) 315-1758 x</p> <p>1c. NYS Unemployment Insurance Employer Registration Number of Insured Pending</p> <p>1d. Federal Employer Identification Number or Social Security Number 20-1455153</p>
<p>2. Name and Address of Entity Requesting Proof of Coverage (Entity Being Listed as the Certificate Holder) Department of Design and Construction  30-30 Thomson Avenue Long Island City, NY 11101</p>	<p>3a. Name of Insurance Carrier <b>Standard Security Life Insurance Company of New York</b></p> <p>3b. Policy Number of Entity Listed in Box "1a" L80746-000</p> <p>3c. Policy effective period 12/18/2015 to 12/10/2018</p>

4. Policy covers:

A. All of the employer's employees eligible under the New York Disability Benefits Law

B. Only the following class or classes of employer's employees:

Under penalty of perjury, I certify that I am an authorized representative or licensed agent of the insurance carrier referenced above and that the named insured has NYS Disability Benefits insurance coverage as described above.

Date Signed 12/11/2017 By [Signature]  
(Signature of insurance carrier's authorized representative or NYS Licensed Insurance Agent of that insurance carrier)

Telephone Number 516-482-2696 Title Chief Operating Officer

**IMPORTANT:** If Box "4a" is checked, and this form is signed by the insurance carrier's authorized representative or NYS Licensed Insurance Agent of that carrier, this certificate is COMPLETE. Mail it directly to the certificate holder.  
If Box "4b" is checked, this certificate is NOT COMPLETE for purposes of Section 220, Subd. 8 of the Disability Benefits Law. It must be mailed for completion to the Workers' Compensation Board, DB Plans Acceptance Unit, 328 State Street, Schenectady, NY 12305

**PART 2. To be completed by the NYS Workers' Compensation Board (Only if Box "4b" of Part 1 has been checked)**

**State of New York  
Workers' Compensation Board**

According to information maintained by the NYS Workers' Compensation Board, the above-named employer has complied with the NYS Disability Benefits Law with respect to all of his/her employees.

Date Signed \_\_\_\_\_ By \_\_\_\_\_  
Signature of NYS Workers' Compensation Board Employee)

Telephone Number \_\_\_\_\_ Title \_\_\_\_\_

**Please Note:** Only insurance carriers licensed to write NYS disability benefits insurance policies and NYS licensed insurance agents of those insurance carriers are authorized to issue Form DB-120.1. Insurance brokers are NOT authorized to issue this form.

## Additional Instructions for Form DB-120.1

By signing this form, the insurance carrier identified in box "3" on this form is certifying that it is insuring the business referenced in box "1a" for disability benefits under the New York State Disability Benefits Law. The Insurance Carrier or its licensed agent will send this Certificate of Insurance to the entity listed as the certificate holder in box "2".

Will the carrier notify the certificate holder within 10 days of a policy being cancelled for non-payment of premium or within 30 days if cancelled for any other reason or if the insured is otherwise eliminated from the coverage indicated on this certificate prior to the end of the policy effective period?  YES  NO

This certificate is issued as a matter of information only and confers no rights upon the certificate holder. This certificate does not amend, extend or alter the coverage afforded by the policy listed, nor does it confer any rights or responsibilities beyond those contained in the referenced policy.

This certificate may be used as evidence of a Disability Benefits contract of insurance only while the underlying policy is in effect.

**Please Note:** Upon the cancellation of the disability benefits policy indicated on this form, if the business continues to be named on a permit, license or contract issued by a certificate holder, the business must provide that certificate holder with a new Certificate of NYS Disability Benefits Coverage or other authorized proof that the business is complying with the mandatory coverage requirements of the New York State Disability Benefits Law.

### DISABILITY BENEFITS LAW

#### §220. Subd. 8

(a) The head of a state or municipal department, board, commission or office authorized or required by law to issue any permit for or in connection with any work involving the employment of employees in employment as defined in this article, and notwithstanding any general or special statute requiring or authorizing the issue of such permits, shall not issue such permit unless proof duly subscribed by an insurance carrier is produced in a form satisfactory to the chair, that the payment of disability benefits for all employees has been secured as provided by this article. Nothing herein, however, shall be construed as creating any liability on the part of such state or municipal department, board, commission or office to pay any disability benefits to any such employee if so employed.

(b) The head of a state or municipal department, board, commission or office authorized or required by law to enter into any contract for or in connection with any work involving the employment of employees in employment as defined in this article and notwithstanding any general or special statute requiring or authorizing any such contract, shall not enter into any such contract unless proof duly subscribed by an insurance carrier is produced in a form satisfactory to the chair, that the payment of disability benefits for all employees has been secured as provided by this article.



**OFFICE OF THE COMPTROLLER**

**CITY OF NEW YORK**

**220 APPRENTICESHIP PREVAILING WAGE SCHEDULE**

**APPENDIX**

Pursuant to Labor Law §220 (3-e), only apprentices who are individually registered in a bona fide program to which the employer contractor is a participant and registered with the New York State Department of Labor, may be employed on a public work project.

Any employee listed on a payroll at an apprentice wage rate, who is not registered as above, shall be paid the journey person wage rate for the classification of work he actually performed.

Apprentice ratios are established to ensure the proper safety, training and supervision of apprentices. A ratio establishes the number of journey workers required for each apprentice in a program and on a job site. Ratios are interpreted as follows: in the case of a 1:1, 1:4 ratio, there must be one journey worker for the first apprentice, and four additional journey workers for each subsequent apprentice.

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## **ASBESTOS HANDLER**

(Ratio of Apprentice Journeyman: 1 to 1, 1 to 3)

### **Asbestos Handler (First 1000 Hours)**

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate Per Hour: 78% of Journeyman's rate  
Supplemental Benefit Rate Per Hour: \$16.45

### **Asbestos Handler (Second 1000 Hours)**

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate Per Hour: 80% of Journeyman's rate  
Supplemental Benefit Rate Per Hour: \$16.45

### **Asbestos Handler (Third 1000 Hours)**

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate Per Hour: 83% of Journeyman's rate  
Supplemental Benefit Rate Per Hour: \$16.45

### **Asbestos Handler (Fourth 1000 Hours)**

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate Per Hour: 89% of Journeyman's rate  
Supplemental Benefit Rate Per Hour: \$16.45

(Local #78)

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## **BOILERMAKER**

(Ratio of Apprentice to Journeyman: 1 to 1, 1 to 3)

### **Boilermaker (First Year)**

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate Per Hour: 65% of Journeyman's rate  
Supplemental Benefit Rate Per Hour: \$30.43  
Effective 1/1/2017 - Supplemental Benefit Rate Per Hour: \$30.84

### **Boilermaker (Second Year: 1st Six Months)**

Effective Period: 7/1/2016 - 6/30/2017

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
§220 APPRENTICESHIP PREVAILING WAGE SCHEDULE

Wage Rate Per Hour: 70% of Journeyperson's rate  
Supplemental Benefit Rate Per Hour: \$32.13  
Effective 1/1/2017 - Supplemental Benefit Rate Per Hour: \$32.57

**Boilermaker (Second Year: 2nd Six Months)**

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate Per Hour: 75% of Journeyperson's rate  
Supplemental Benefit Rate Per Hour: \$33.82  
Effective 1/1/2017 - Supplemental Benefit Rate Per Hour: \$34.29

**Boilermaker (Third Year: 1st Six Months)**

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate Per Hour: 80% of Journeyperson's rate  
Supplemental Benefit Rate Per Hour: \$35.53  
Effective 1/1/2017 - Supplemental Benefit Rate Per Hour: \$36.03

**Boilermaker (Third Year: 2nd Six Months)**

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate Per Hour: 85% of Journeyperson's rate  
Supplemental Benefit Rate Per Hour: \$37.23  
Effective 1/1/2017 - Supplemental Benefit Rate Per Hour: \$37.76

**Boilermaker (Fourth Year: 1st Six Months)**

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate Per Hour: 90% of Journeyperson's rate  
Supplemental Benefit Rate Per Hour: \$38.93  
Effective 1/1/2017 - Supplemental Benefit Rate Per Hour: \$39.51

**Boilermaker (Fourth Year: 2nd Six Months)**

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate Per Hour: 95% of Journeyperson's rate  
Supplemental Benefit Rate Per Hour: \$40.63  
Effective 1/1/2017 - Supplemental Benefit Rate Per Hour: \$41.22

(Local #5)

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**BRICKLAYER**

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 4)

**Bricklayer (First 750 Hours)**

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
§220 APPRENTICESHIP PREVAILING WAGE SCHEDULE

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate Per Hour: 50% of Journeyperson's rate  
Supplemental Benefit Rate Per Hour: \$18.35

**Bricklayer (Second 750 Hours)**

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate Per Hour: 60% of Journeyperson's rate  
Supplemental Benefit Rate Per Hour: \$18.35

**Bricklayer (Third 750 Hours)**

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate Per Hour: 70% of Journeyperson's rate  
Supplemental Benefit Rate Per Hour: \$18.35

**Bricklayer (Fourth 750 Hours)**

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate Per Hour: 80% of Journeyperson's rate  
Supplemental Benefit Rate Per Hour: \$18.35

**Bricklayer (Fifth 750 Hours)**

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate Per Hour: 90% of Journeyperson's rate  
Supplemental Benefit Rate Per Hour: \$18.35

**Bricklayer (Sixth 750 Hours)**

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate Per Hour: 95% of Journeyperson's rate  
Supplemental Benefit Rate Per Hour: \$18.35

(Bricklayer District Council)

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**CARPENTER**

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 4)

**Carpenter (First Year)**

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate Per Hour: 40% of Journeyperson's rate  
Supplemental Benefit Rate Per Hour For Building Apprentice: \$31.34

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
§220 APPRENTICESHIP PREVAILING WAGE SCHEDULE

Supplemental Benefit Rate Per Hour For Heavy Apprentice: \$32.52

**Carpenter (Second Year)**

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate Per Hour: 50% of Journeyman's rate

Supplemental Benefit Rate Per Hour For Building Apprentice: \$31.34

Supplemental Benefit Rate Per Hour For Heavy Apprentice: \$32.52

**Carpenter (Third Year)**

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate Per Hour: 65% of Journeyman's rate

Supplemental Benefit Rate Per Hour For Building Apprentice: \$31.34

Supplemental Benefit Rate Per Hour For Heavy Apprentice: \$32.52

**Carpenter (Fourth Year)**

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate Per Hour: 80% of Journeyman's rate

Supplemental Benefit Rate Per Hour For Building Apprentice: \$31.34

Supplemental Benefit Rate Per Hour For Heavy Apprentice: \$32.52

(Carpenters District Council)

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**CEMENT MASON**

(Ratio of Apprentice to Journeyman: 1 to 1, 1 to 4)

**Cement Mason (First Year)**

Effective Period: 7/1/2016 - 6/30/2017

Wage and Supplemental Rate Per Hour: 50% of Journeyman's Rate

**Cement Mason (Second Year)**

Effective Period: 7/1/2016 - 6/30/2017

Wage and Supplemental Rate Per Hour: 60% of Journeyman's Rate

**Cement Mason (Third Year)**

Effective Period: 7/1/2016 - 6/30/2017

Wage and Supplemental Rate Per Hour: 70% of Journeyman's Rate

(Local #780)

**CEMENT AND CONCRETE WORKER**  
(Ratio of Apprentice to Journeyman: 1 to 1, 1 to 3)

**Cement & Concrete Worker (First 1333 hours)**

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate Per Hour: 50% of Journeyman's rate  
Supplemental Benefit Rate Per Hour: \$16.25

**Cement & Concrete Worker (Second 1333 hours)**

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate Per Hour: 65% of Journeyman's rate  
Supplemental Benefit Rate Per Hour: \$21.08

**Cement & Concrete Worker (Last 1334 hours)**

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate Per Hour: 80% of Journeyman's rate  
Supplemental Benefit Rate Per Hour: \$21.90

**Cement & Concrete Worker (Hired after 2/6/2016 - First 1334 hours)**

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate Per Hour: \$17.00  
Supplemental Benefit Rate Per Hour: \$10.75

**Cement & Concrete Worker (Hired after 2/6/2016 - Second 1334 hours)**

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate Per Hour: \$22.10  
Supplemental Benefit Rate Per Hour: \$15.13

**Cement & Concrete Worker (Hired after 2/6/2016 - Last 1334 hours)**

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate Per Hour: \$27.20  
Supplemental Benefit Rate Per Hour: \$15.63

(Cement Concrete Workers District Council)

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OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
§220 APPRENTICESHIP PREVAILING WAGE SCHEDULE

**DERRICKPERSON & RIGGER (STONE)**  
(Ratio of Apprentice to Journeyman: 1 to 1, 1 to 4)

**Derrickperson & Rigger (stone) - First Year**

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate Per Hour: 50% of Journeyman's rate  
Supplemental Benefit Rate Per Hour: 50% of Journeyman's rate

**Derrickperson & Rigger (stone) - Second Year: 1st Six Months**

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate Per Hour: 70% of Journeyman's rate  
Supplemental Benefit Rate Per Hour: 75% of Journeyman's rate

**Derrickperson & Rigger (stone) - Second Year: 2nd Six Months**

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate Per Hour: 80% of Journeyman's rate  
Supplemental Benefit Rate Per Hour: 75% of Journeyman's rate

**Derrickperson & Rigger (stone) - Third Year**

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate Per Hour: 90% of Journeyman's rate  
Supplemental Benefit Rate Per Hour: 75% of Journeyman's rate

(Local #197)

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**DOCKBUILDER/PILE DRIVER**  
(Ratio of Apprentice to Journeyman: 1 to 1, 1 to 6)

**Dockbuilder/Pile Driver (First Year)**

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate Per Hour: 40% of Journeyman's rate  
Supplemental Benefit Rate Per Hour: \$32.52

**Dockbuilder/Pile Driver (Second Year)**

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate Per Hour: 50% of Journeyman's rate



OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
§220 APPRENTICESHIP PREVAILING WAGE SCHEDULE

Supplemental Benefit Rate Per Hour: \$32.52

**Dockbuilder/Pile Driver (Third Year)**

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate Per Hour: 65% of Journeyperson's rate

Supplemental Benefit Rate Per Hour: \$32.52

**Dockbuilder/Pile Driver (Fourth Year)**

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate Per Hour: 80% of Journeyperson's rate

Supplemental Benefit Rate Per Hour: \$32.52

(Carpenters District Council)

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**ELECTRICIAN**

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 3)

**Electrician (First Term: 0-6 Months)**

Effective Period: 7/1/2016 - 5/10/2017

Wage Rate per Hour: \$13.50

Supplemental Benefit Rate per Hour: \$12.12

Overtime Supplemental Rate Per Hour: \$13.01

Effective Period: 5/11/2017 - 6/30/2017

Wage Rate per Hour: \$14.00

Supplemental Benefit Rate per Hour: \$12.37

Overtime Supplemental Rate Per Hour: \$13.29

**Electrician (First Term: 7-12 Months)**

Effective Period: 7/1/2016 - 5/10/2017

Wage Rate per Hour: \$14.50

Supplemental Benefit Rate per Hour: \$12.63

Overtime Supplemental Rate Per Hour: \$13.58

Effective Period: 5/11/2017 - 6/30/2017

Wage Rate per Hour: \$15.00

Supplemental Benefit Rate per Hour: \$12.88

Overtime Supplemental Rate Per Hour: \$13.87

**Electrician (Second Term: 0-6 Months)**

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
§220 APPRENTICESHIP PREVAILING WAGE SCHEDULE

Effective Period: 7/1/2016 - 5/10/2017

Wage Rate per Hour: \$15.50

Supplemental Benefit Rate per Hour: \$13.14

Overtime Supplemental Rate Per Hour: \$14.16

Effective Period: 5/11/2017 - 6/30/2017

Wage Rate per Hour: \$16.00

Supplemental Benefit Rate per Hour: \$13.39

Overtime Supplemental Rate Per Hour: \$14.44

**Electrician (Second Term: 7-12 Months)**

Effective Period: 7/1/2016 - 5/10/2017

Wage Rate per Hour: \$16.50

Supplemental Benefit Rate per Hour: \$13.64

Overtime Supplemental Rate Per Hour: \$14.73

Effective Period: 5/11/2017 - 6/30/2017

Wage Rate per Hour: \$17.00

Supplemental Benefit Rate per Hour: \$13.90

Overtime Supplemental Rate Per Hour: \$15.02

**Electrician (Third Term: 0-6 Months)**

Effective Period: 7/1/2016 - 5/10/2017

Wage Rate per Hour: \$17.50

Supplemental Benefit Rate per Hour: \$14.15

Overtime Supplemental Rate Per Hour: \$15.31

Effective Period: 5/11/2017 - 6/30/2017

Wage Rate per Hour: \$18.00

Supplemental Benefit Rate per Hour: \$14.41

Overtime Supplemental Rate Per Hour: \$15.59

**Electrician (Third Term: 7-12 Months)**

Effective Period: 7/1/2016 - 5/10/2017

Wage Rate per Hour: \$18.50

Supplemental Benefit Rate per Hour: \$14.66

Overtime Supplemental Rate Per Hour: \$15.88

Effective Period: 5/11/2017 - 6/30/2017

Wage Rate per Hour: \$19.00

Supplemental Benefit Rate per Hour: \$14.92

Overtime Supplemental Rate Per Hour: \$16.17

**Electrician (Fourth Term: 0-6 Months)**

Effective Period: 7/1/2016 - 5/10/2017

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
§220 APPRENTICESHIP PREVAILING WAGE SCHEDULE

Wage Rate per Hour: **\$19.50**  
Supplemental Benefit Rate per Hour: **\$15.17**  
Overtime Supplemental Rate Per Hour: **\$16.45**

Effective Period: 5/11/2017 - 6/30/2017  
Wage Rate per Hour: **\$20.00**  
Supplemental Benefit Rate per Hour: **\$15.43**  
Overtime Supplemental Rate Per Hour: **\$16.75**

**Electrician (Fourth Term: 7-12 Months)**

Effective Period: 7/1/2016 - 5/10/2017  
Wage Rate per Hour: **\$21.50**  
Supplemental Benefit Rate per Hour: **\$16.19**  
Overtime Supplemental Rate Per Hour: **\$17.60**

Effective Period: 5/11/2017 - 6/30/2017  
Wage Rate per Hour: **\$22.00**  
Supplemental Benefit Rate per Hour: **\$16.44**  
Overtime Supplemental Rate Per Hour: **\$17.89**

**Electrician (Fifth Term: 0-12 Months)**

Effective Period: 7/1/2016 - 5/10/2017  
Wage Rate per Hour: **\$23.50**  
Supplemental Benefit Rate per Hour: **\$19.54**  
Overtime Supplemental Rate Per Hour: **\$21.01**

Effective Period: 5/11/2017 - 6/30/2017  
Wage Rate per Hour: **\$24.00**  
Supplemental Benefit Rate per Hour: **\$19.80**  
Overtime Supplemental Rate Per Hour: **\$21.30**

**Electrician (Fifth Term: 13-18 Months)**

Effective Period: 7/1/2016 - 5/10/2017  
Wage Rate per Hour: **\$28.00**  
Supplemental Benefit Rate per Hour: **\$21.85**  
Overtime Supplemental Rate Per Hour: **\$23.60**

Effective Period: 5/11/2017 - 6/30/2017  
Wage Rate per Hour: **\$28.50**  
Supplemental Benefit Rate per Hour: **\$22.10**  
Overtime Supplemental Rate Per Hour: **\$23.89**

**Overtime Description**

Overtime Wage paid at time and one half the regular rate

Local #3)

## **ELEVATOR CONSTRUCTOR**

(Ratio of Apprentice to Journeyman: 1 to 1, 1 to 2)

### **Elevator (Constructor) - First Year**

Effective Period: 7/1/2016 - 3/16/2017  
Wage Rate Per Hour: 50% of Journeyman's rate  
Supplemental Rate Per Hour: \$28.24

Effective Period: 3/17/2017 - 6/30/2017  
Wage Rate Per Hour: 50% of Journeyman's rate  
Supplemental Rate Per Hour: \$29.72

### **Elevator (Constructor) - Second Year**

Effective Period: 7/1/2016 - 3/16/2017  
Wage Rate Per Hour: 55% of Journeyman's rate  
Supplemental Rate Per Hour: \$28.67

Effective Period: 3/17/2017 - 6/30/2017  
Wage Rate Per Hour: 55% of Journeyman's rate  
Supplemental Rate Per Hour: \$30.15

### **Elevator (Constructor) - Third Year**

Effective Period: 7/1/2016 - 3/16/2017  
Wage Rate Per Hour: 65% of Journeyman's rate  
Supplemental Rate Per Hour: \$29.52

Effective Period: 3/17/2017 - 6/30/2017  
Wage Rate Per Hour: 65% of Journeyman's rate  
Supplemental Rate Per Hour: \$31.03

### **Elevator (Constructor) - Fourth Year**

Effective Period: 7/1/2016 - 3/16/2017  
Wage Rate Per Hour: 75% of Journeyman's rate  
Supplemental Rate Per Hour: \$30.37

Effective Period: 3/17/2017 - 6/30/2017  
Wage Rate Per Hour: 75% of Journeyman's rate  
Supplemental Rate Per Hour: \$31.91

(Local #1)

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**ELEVATOR REPAIR & MAINTENANCE**  
(Ratio of Apprentice to Journeyman: 1 to 1, 1 to 2)

**Elevator Service/Modernization Mechanic (First Year)**

Effective Period: 7/1/2016 - 3/16/2017  
Wage Rate Per Hour: 50% of Journeyman's rate  
Supplemental Benefit Per Hour: \$28.33

Effective Period: 3/17/2017 - 6/30/2017  
Wage Rate Per Hour: 50% of Journeyman's rate  
Supplemental Benefit Per Hour: \$29.80

**Elevator Service/Modernization Mechanic (Second Year)**

Effective Period: 7/1/2016 - 3/16/2017  
Wage Rate Per Hour: 55% of Journeyman's rate  
Supplemental Benefit Per Hour: \$28.74

Effective Period: 3/17/2017 - 6/30/2017  
Wage Rate Per Hour: 55% of Journeyman's rate  
Supplemental Benefit Per Hour: \$30.23

**Elevator Service/Modernization Mechanic (Third Year)**

Effective Period: 7/1/2016 - 3/16/2017  
Wage Rate Per Hour: 65% of Journeyman's rate  
Supplemental Benefit Per Hour: \$29.58

Effective Period: 3/17/2017 - 6/30/2017  
Wage Rate Per Hour: 65% of Journeyman's rate  
Supplemental Benefit Per Hour: \$31.09

**Elevator Service/Modernization Mechanic (Fourth Year)**

Effective Period: 7/1/2016 - 3/16/2017  
Wage Rate Per Hour: 75% of Journeyman's rate  
Supplemental Benefit Per Hour: \$30.42

Effective Period: 3/17/2017 - 6/30/2017  
Wage Rate Per Hour: 75% of Journeyman's rate  
Supplemental Benefit Per Hour: \$31.95

(Local #1)

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## **ENGINEER**

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 5)

### **Engineer - First Year**

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: \$24.28

Supplemental Benefit Rate per Hour: \$23.41

### **Engineer - Second Year**

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: \$30.35

Supplemental Benefit Rate per Hour: \$23.41

### **Engineer - Third Year**

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: \$33.38

Supplemental Benefit Rate per Hour: \$23.41

### **Engineer - Fourth Year**

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: \$36.41

Supplemental Benefit Rate per Hour: \$23.41

(Local #15)

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## **ENGINEER - OPERATING**

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 5)

### **Operating Engineer - First Year**

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate Per Hour 40% of Journeyperson's Rate

Supplemental Benefit Per Hour: \$20.85

### **Operating Engineer - Second Year**

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
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Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate Per Hour: 50% of Journeyperson's Rate  
Supplemental Benefit Per Hour: \$20.85

**Operating Engineer - Third Year**

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate Per Hour: 60% of Journeyperson's Rate  
Supplemental Benefit Per Hour: \$20.85

(Local #14)

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**FLOOR COVERER**

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 4)

**Floor Coverer (First Year)**

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate Per Hour: 40% of Journeyperson's rate  
Supplemental Rate Per Hour: \$31.14

**Floor Coverer (Second Year)**

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate Per Hour: 50% of Journeyperson's rate  
Supplemental Rate Per Hour: \$31.14

**Floor Coverer (Third Year)**

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate Per Hour: 65% of Journeyperson's rate  
Supplemental Rate Per Hour: \$31.14

**Floor Coverer (Fourth Year)**

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate Per Hour: 80% of Journeyperson's rate  
Supplemental Rate Per Hour: \$31.14

(Carpenters District Council)

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OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
\$220 APPRENTICESHIP PREVAILING WAGE SCHEDULE

**GLAZIER**

(Ratio of Apprentice to Journeyman: 1 to 1, 1 to 3)

**Glazier (First Year)**

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate Per Hour: 40% of Journeyman's rate  
Supplemental Rate Per Hour: \$14.14

**Glazier (Second Year)**

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate Per Hour: 50% of Journeyman's rate  
Supplemental Rate Per Hour: \$23.77

**Glazier (Third Year)**

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate Per Hour: 60% of Journeyman's rate  
Supplemental Rate Per Hour: \$26.73

**Glazier (Fourth Year)**

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate Per Hour: 80% of Journeyman's rate  
Supplemental Rate Per Hour: \$32.14

(Local #1281)

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**HEAT & FROST INSULATOR**

(Ratio of Apprentice to Journeyman: 1 to 1, 1 to 4)

**Heat & Frost Insulator (First Year)**

Effective Period: 7/1/2016 - 6/30/2017  
Wage and Supplemental Rate Per Hour: 40% of Journeyman's rate

**Heat & Frost Insulator (Second Year)**

Effective Period: 7/1/2016 - 6/30/2017  
Wage and Supplemental Rate Per Hour: 60% of Journeyman's rate



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**Heat & Frost Insulator (Third Year)**

Effective Period: 7/1/2016 - 6/30/2017

Wage and Supplemental Rate Per Hour: 70% of Journeyman's rate

**Heat & Frost Insulator (Fourth Year)**

Effective Period: 7/1/2016 - 6/30/2017

Wage and Supplemental Rate Per Hour: 80% of Journeyman's rate

(Local #12)

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**HOUSE WRECKER  
(TOTAL DEMOLITION)  
(Ratio of Apprentice to Journeyman: 1 to 1, 1 to 3)**

**House Wrecker - First Year**

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: \$21.17

Supplemental Benefit Rate per Hour: \$17.99

**House Wrecker - Second Year**

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: \$22.32

Supplemental Benefit Rate per Hour: \$17.99

**House Wrecker - Third Year**

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: \$23.97

Supplemental Benefit Rate per Hour: \$17.99

**House Wrecker - Fourth Year**

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: \$26.53

Supplemental Benefit Rate per Hour: \$17.99

(Mason Tenders District Council)

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## **IRON WORKER - ORNAMENTAL**

(Ratio of Apprentice to Journeyman: 1 to 1, 1 to 4)

### **Iron Worker (Ornamental) - 1st Ten Months**

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate Per Hour: 50% of Journeyman's rate  
Supplemental Rate Per Hour: \$37.90

### **Iron Worker (Ornamental) - 11 -16 Months**

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate Per Hour: 55% of Journeyman's rate  
Supplemental Rate Per Hour: \$39.06

### **Iron Worker (Ornamental) - 17 - 22 Months**

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate Per Hour: 60% of Journeyman's rate  
Supplemental Rate Per Hour: \$40.23

### **Iron Worker (Ornamental) - 23 - 28 Months**

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate Per Hour: 70% of Journeyman's rate  
Supplemental Rate Per Hour: \$42.57

### **Iron Worker (Ornamental) - 29 - 36 Months**

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate Per Hour: 80% of Journeyman's rate  
Supplemental Rate Per Hour: \$44.90

(Local #580)

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## **IRON WORKER - STRUCTURAL**

(Ratio of Apprentice to Journeyman: 1 to 1, 1 to 6)

### **Iron Worker (Structural) - 1st Six Months**

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Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate per Hour: \$25.85  
Supplemental Benefit Rate per Hour: \$48.35

**Iron Worker (Structural) - 7- 18 Months**

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate per Hour: \$26.45  
Supplemental Benefit Rate per Hour: \$48.35

**Iron Worker (Structural) - 19 - 36 months**

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate per Hour: \$27.05  
Supplemental Benefit Rate per Hour: \$48.35

(Local #40 and #361)

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**LABORER (FOUNDATION, CONCRETE, EXCAVATING, STREET PIPE  
LAYER & COMMON)  
(Ratio Apprentice to Journeyman: 1 to 1, 1 to 3)**

**Laborer (Foundation, Concrete, Excavating, Street Pipe Layer & Common) - First  
1000 hours**

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate Per Hour: 50% of Journeyman's rate  
Supplemental Rate Per Hour: \$38.63

**Laborer (Foundation, Concrete, Excavating, Street Pipe Layer & Common) -  
Second 1000 hours**

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate Per Hour: 60% of Journeyman's rate  
Supplemental Rate Per Hour: \$38.63

**Laborer (Foundation, Concrete, Excavating, Street Pipe Layer & Common) -  
Third 1000 hours**

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate Per Hour: 75% of Journeyman's rate  
Supplemental Rate Per Hour: \$38.63

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
§220 APPRENTICESHIP PREVAILING WAGE SCHEDULE

**Laborer (Foundation, Concrete, Excavating, Street Pipe Layer & Common) -  
Fourth 1000 hours**

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate Per Hour: 90% of Journeyperson's rate  
Supplemental Rate Per Hour: \$38.63

(Local #731)

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**MARBLE MECHANICS  
(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 4)**

**Cutters & Setters - First 750 Hours**

Effective Period: 7/1/2016 - 6/30/2017  
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: 7/1/2016 - 6/30/2017  
Wage and Supplemental Rate Per Hour: 55% of Journeyperson's rate

**Cutters & Setters - Third 750 Hours**

Effective Period: 7/1/2016 - 6/30/2017  
Wage and Supplemental Rate Per Hour: 65% of Journeyperson's rate

**Cutters & Setters - Fourth 750 Hours**

Effective Period: 7/1/2016 - 6/30/2017  
Wage and Supplemental Rate Per Hour: 75% of Journeyperson's rate

**Cutters & Setters - Fifth 750 Hours**

Effective Period: 7/1/2016 - 6/30/2017  
Wage and Supplemental Rate Per Hour: 85% of Journeyperson's rate

**Cutters & Setters - Sixth 750 Hours**

Effective Period: 7/1/2016 - 6/30/2017  
Wage and Supplemental Rate Per Hour: 95% of Journeyperson's rate

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
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**Polishers & Finishers - First 750 Hours**

Effective Period: 7/1/2016 - 6/30/2017

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: 7/1/2016 - 6/30/2017

Wage and Supplemental Rate Per Hour: 60% of Journeyperson's rate

**Polishers & Finishers - Third 750 Hours**

Effective Period: 7/1/2016 - 6/30/2017

Wage and Supplemental Rate Per Hour: 75% of Journeyperson's rate

**Polishers & Finishers - Fourth 750 Hours**

Effective Period: 7/1/2016 - 6/30/2017

Wage and Supplemental Rate Per Hour: 90% of Journeyperson's rate

(Local #7)

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**MASON TENDER**

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 3)

**Mason Tender - First Year**

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: \$21.39

Supplemental Benefit Rate per Hour: \$19.10

**Mason Tender - Second Year**

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: \$22.54

Supplemental Benefit Rate per Hour: \$19.10

**Mason Tender - Third Year**

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: \$24.29

Supplemental Benefit Rate per Hour: \$19.15

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
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**Mason Tender - Fourth Year**

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: \$26.95

Supplemental Benefit Rate per Hour: \$19.15

(Local #79)

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**METALLIC LATHER**

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 3)

**Metallic Lather (First Year)**

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: \$23.01

Supplemental Benefit Rate per Hour: \$17.95

**Metallic Lather (Second Year)**

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: \$28.11

Supplemental Benefit Rate per Hour: \$17.95

**Metallic Lather (Third Year)**

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: \$33.21

Supplemental Benefit Rate per Hour: \$17.95

(Local #46)

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**MILLWRIGHT**

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 4)

**Millwright (First Year)**

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
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Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate per Hour: \$28.33  
Supplemental Benefit Rate per Hour: \$34.28

**Millwright (Second Year)**

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate per Hour: \$33.48  
Supplemental Benefit Rate per Hour: \$37.88

**Millwright (Third Year)**

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate per Hour: \$38.63  
Supplemental Benefit Rate per Hour: \$42.13

**Millwright (Fourth Year)**

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate per Hour: \$48.93  
Supplemental Benefit Rate per Hour: \$48.69

(Local #740)

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**PAVER AND ROADBUILDER**

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 3)

**Paver and Roadbuilder - First Year (Minimum 1000 hours)**

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate per Hour: \$27.55  
Supplemental Benefit Rate per Hour: \$18.20

**Paver and Roadbuilder - Second Year (Minimum 1000 hours)**

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate per Hour: \$29.19  
Supplemental Benefit Rate per Hour: \$18.20

(Local #1010)

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## **PAINTER**

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 3)

### **Painter - Brush & Roller - First Year**

Effective Period: 7/1/2016 - 4/30/2017

Wage Rate per Hour: \$17.00

Supplemental Benefit Rate per Hour: \$12.38

Effective Period: 5/1/2017 - 6/30/2017

Wage Rate per Hour: \$17.64

Supplemental Benefit Rate per Hour: \$12.78

### **Painter - Brush & Roller - Second Year**

Effective Period: 7/1/2016 - 4/30/2017

Wage Rate per Hour: \$21.25

Supplemental Benefit Rate per Hour: \$16.23

Effective Period: 5/1/2017 - 6/30/2017

Wage Rate per Hour: \$22.05

Supplemental Benefit Rate per Hour: \$16.63

### **Painter - Brush & Roller - Third Year**

Effective Period: 7/1/2016 - 4/30/2017

Wage Rate per Hour: \$25.50

Supplemental Benefit Rate per Hour: \$19.14

Effective Period: 5/1/2017 - 6/30/2017

Wage Rate per Hour: \$26.46

Supplemental Benefit Rate per Hour: \$19.54

### **Painter - Brush & Roller - Fourth Year**

Effective Period: 7/1/2016 - 4/30/2017

Wage Rate per Hour: \$34.00

Supplemental Benefit Rate per Hour: \$24.52

Effective Period: 5/1/2017 - 6/30/2017

Wage Rate per Hour: \$35.28

Supplemental Benefit Rate per Hour: \$24.92

(District Council of Painters)



**PAINTER - METAL POLISHER**

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 3)

**Metal Polisher (First Year)**

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: \$11.75

Supplemental Benefit Rate per Hour: \$5.13

**Metal Polisher (Second Year)**

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: \$13.00

Supplemental Benefit Rate per Hour: \$5.13

**Metal Polisher (Third Year)**

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: \$15.75

Supplemental Benefit Rate per Hour: \$5.13

(Local 8A-28)

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**PAINTER - STRUCTURAL STEEL**

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 3)

**Painters - Structural Steel (First Year)**

Effective Period: 7/1/2016 - 6/30/2017

Wage and Supplemental Rate Per Hour: 40% of Journeyperson's rate

**Painters - Structural Steel (Second Year)**

Effective Period: 7/1/2016 - 6/30/2017

Wage and Supplemental Rate Per Hour: 60% of Journeyperson's rate

**Painters - Structural Steel (Third Year)**

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Effective Period: 7/1/2016 - 6/30/2017

Wage and Supplemental Rate Per Hour: 80% of Journeyperson's rate

(Local #806)

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## **PLASTERER**

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 3)

### **Plasterer - First Year: 1st Six Months**

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate Per Hour: 40% of Journeyperson's rate

Supplemental Rate Per Hour: \$15.91

### **Plasterer - First Year: 2nd Six Months**

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate Per Hour: 45% of Journeyperson's rate

Supplemental Rate Per Hour: \$16.39

### **Plasterer - Second Year: 1st Six Months**

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate Per Hour: 55% of Journeyperson's rate

Supplemental Rate Per Hour: \$18.36

### **Plasterer - Second Year: 2nd Six Months**

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate Per Hour: 60% of Journeyperson's rate

Supplemental Rate Per Hour: \$19.44

### **Plasterer - Third Year: 1st Six Months**

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate Per Hour: 70% of Journeyperson's rate

Supplemental Rate Per Hour: \$21.61

### **Plasterer - Third Year: 2nd Six Months**

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate Per Hour: 75% of Journeyperson's rate

Supplemental Rate Per Hour: \$22.69

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
§220 APPRENTICESHIP PREVAILING WAGE SCHEDULE

(Local #530)

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**PLASTERER - TENDER**

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 3)

**Plasterer Tender - First Year**

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: \$21.39

Supplemental Benefit Rate per Hour: \$19.10

**Plasterer Tender - Second Year**

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: \$22.54

Supplemental Benefit Rate per Hour: \$19.10

**Plasterer Tender - Third Year**

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: \$24.29

Supplemental Benefit Rate per Hour: \$19.15

**Plasterer Tender - Fourth Year**

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: \$26.95

Supplemental Benefit Rate per Hour: \$19.15

(Local #79)

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**PLUMBER**

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 3)

**Plumber - First Year: 1st Six Months**

Effective Period: 7/1/2016 - 6/30/2017

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
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Wage Rate per Hour: \$14.00  
Supplemental Benefit Rate per Hour: \$0.71

**Plumber - First Year: 2nd Six Months**

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate per Hour: \$14.00  
Supplemental Benefit Rate per Hour: \$2.96

**Plumber - Second Year**

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate per Hour: \$24.07  
Supplemental Benefit Rate per Hour: \$13.21

**Plumber - Third Year**

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate per Hour: \$26.17  
Supplemental Benefit Rate per Hour: \$13.21

**Plumber - Fourth Year**

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate per Hour: \$29.02  
Supplemental Benefit Rate per Hour: \$13.21

**Plumber - Fifth Year: 1st Six Months**

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate per Hour: \$30.42  
Supplemental Benefit Rate per Hour: \$13.21

**Plumber - Fifth Year: 2nd Six Months**

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate per Hour: \$42.49  
Supplemental Benefit Rate per Hour: \$13.21

(Plumbers Local #1)

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**POINTER, WATERPROOFER, CAULKER, SANDBLASTER,  
STEAMBLASTER**

(Exterior Building Renovation)

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 4)

**Pointer, Waterproofer, Caulker, Sandblaster, Steamblaster - First Year**

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: \$26.52

Supplemental Benefit Rate per Hour: \$12.10

**Pointer, Waterproofer, Caulker, Sandblaster, Steamblaster - Second Year**

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: \$27.89

Supplemental Benefit Rate per Hour: \$16.75

**Pointer, Waterproofer, Caulker, Sandblaster, Steamblaster - Third Year**

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: \$33.98

Supplemental Benefit Rate per Hour: \$19.50

**Pointer, Waterproofer, Caulker, Sandblaster, Steamblaster - Fourth Year**

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: \$40.80

Supplemental Benefit Rate per Hour: \$20.35

(Bricklayer District Council)

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**ROOFER**

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 2)

**Roofer - First Year**

Effective Period: 7/1/2016 - 6/30/2017

Wage and Supplemental Rate Per Hour: 35% of Journeyperson's Rate

**Roofer - Second Year**

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
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Effective Period: 7/1/2016 - 6/30/2017

Wage and Supplemental Rate Per Hour: 50% of Journeyperson's Rate

**Roofer - Third Year**

Effective Period: 7/1/2016 - 6/30/2017

Wage and Supplemental Rate Per Hour: 60% of Journeyperson's Rate

**Roofer - Fourth Year**

Effective Period: 7/1/2016 - 6/30/2017

Wage and Supplemental Rate Per Hour: 75% of Journeyperson's Rate

(Local #8)

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**SHEET METAL WORKER**

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 3)

**Sheet Metal Worker (0-6 Months)**

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate Per Hour: 25% of Journeyperson's rate

Supplemental Rate Per Hour: \$6.35

**Sheet Metal Worker (7-18 Months)**

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate Per Hour: 35% of Journeyperson's rate

Supplemental Rate Per Hour: \$17.12

**Sheet Metal Worker (19-30 Months)**

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate Per Hour: 45% of Journeyperson's rate

Supplemental Rate Per Hour: \$23.54

**Sheet Metal Worker (31-36 Months)**

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate Per Hour: 55% of Journeyperson's rate

Supplemental Rate Per Hour: \$27.70

**Sheet Metal Worker (37-42 Months)**

Effective Period: 7/1/2016 - 6/30/2017

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
§220 APPRENTICESHIP PREVAILING WAGE SCHEDULE

Wage Rate Per Hour: 60% of Journeyman's rate  
Supplemental Rate Per Hour: \$29.11

**Sheet Metal Worker (43-48 Months)**

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate Per Hour: 70% of Journeyman's rate  
Supplemental Rate Per Hour: \$33.96

**Sheet Metal Worker (49-54 Months)**

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate Per Hour: 75% of Journeyman's rate  
Supplemental Rate Per Hour: \$36.07

**Sheet Metal Worker (55-60 Months)**

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate Per Hour: 80% of Journeyman's rate  
Supplemental Rate Per Hour: \$38.15

(Local #28)

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**SIGN ERECTOR**

(Ratio of Apprentice to Journeyman: 1 to 1, 1 to 4)

**Sign Erector - First Year: 1st Six Months**

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate Per Hour: 35% of Journeyman's rate  
Supplemental Rate Per Hour: \$13.95

**Sign Erector - First Year: 2nd Six Months**

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate Per Hour: 40% of Journeyman's rate  
Supplemental Rate Per Hour: \$15.83

**Sign Erector - Second Year: 1st Six Months**

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate Per Hour: 45% of Journeyman's rate  
Supplemental Rate Per Hour: \$17.72

**Sign Erector - Second Year: 2nd Six Months**

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
§220 APPRENTICESHIP PREVAILING WAGE SCHEDULE

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate Per Hour: 50% of Journeyperson's rate  
Supplemental Rate Per Hour: \$19.60

**Sign Erector - Third Year: 1st Six Months**

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate Per Hour: 55% of Journeyperson's rate  
Supplemental Rate Per Hour: \$26.23

**Sign Erector - Third Year: 2nd Six Months**

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate Per Hour: 60% of Journeyperson's rate  
Supplemental Rate Per Hour: \$28.24

**Sign Erector - Fourth Year: 1st Six Months**

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate Per Hour: 65% of Journeyperson's rate  
Supplemental Rate Per Hour: \$30.98

**Sign Erector - Fourth Year: 2nd Six Months**

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate Per Hour: 70% of Journeyperson's rate  
Supplemental Rate Per Hour: \$33.06

**Sign Erector - Fifth Year**

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate Per Hour: 75% of Journeyperson's rate  
Supplemental Rate Per Hour: \$35.15

**Sign Erector - Sixth Year**

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate Per Hour: 80% of Journeyperson's rate  
Supplemental Rate Per Hour: \$37.22

(Local #137)

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**STEAMFITTER**

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 3)



OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
§220 APPRENTICESHIP PREVAILING WAGE SCHEDULE

**Steamfitter - First Year**

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate and Supplemental Per Hour: 40% of Journeyperson's rate

**Steamfitter - Second Year**

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate and Supplemental Rate Per Hour: 50% of Journeyperson's rate.

**Steamfitter - Third Year**

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate and Supplemental Rate per Hour: 65% of Journeyperson's rate.

**Steamfitter - Fourth Year**

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate and Supplemental Rate Per Hour: 80% of Journeyperson's rate.

**Steamfitter - Fifth Year**

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate and Supplemental Rate Per Hour: 85% of Journeyperson's rate.

(Local #638)

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**STONE MASON - SETTER**

(Ratio Apprentice of Journeyperson: 1 to 1, 1 to 2)

**Stone Mason - Setters - First 750 Hours**

Effective Period: 7/1/2016 - 6/30/2017

Wage and Supplemental Rate Per Hour: 50% of Journeyperson's rate

**Stone Mason - Setters - Second 750 Hours**

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate Per Hour: 60% of Journeyperson's rate

Supplemental Rate Per Hour: 50% of Journeyperson's rate

**Stone Mason - Setters - Third 750 Hours**

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
§220 APPRENTICESHIP PREVAILING WAGE SCHEDULE

Effective Period: 7/1/2016 - 6/30/2017  
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: 7/1/2016 - 6/30/2017  
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: 7/1/2016 - 6/30/2017  
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: 7/1/2016 - 6/30/2017  
Wage Rate Per Hour: 100% of Journeyperson's rate  
Supplemental Rate Per Hour: 50% of Journeyperson's rate

(Bricklayers District Council)

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**TAPER**

(Ratio of Apprentice to Journeyperson: 1 to 1, 1 to 4)

**Drywall Taper - First Year**

Effective Period: 7/1/2016 - 6/30/2017  
Wage and Supplemental Rate Per Hour: 40% of Journeyperson's rate

**Drywall Taper - Second Year**

Effective Period: 7/1/2016 - 6/30/2017  
Wage and Supplemental Rate Per Hour: 60% of Journeyperson's rate

**Drywall Taper - Third Year**

Effective Period: 7/1/2016 - 6/30/2017  
Wage and Supplemental Rate Per Hour: 80% of Journeyperson's rate

(Local #1974)

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## **TILE LAYER - SETTER**

(Ratio of Apprentice to Journeyman: 1 to 1, 1 to 4)

### **Tile Layer - Setter - First 750 Hours**

Effective Period: 7/1/2016 - 6/30/2017

Wage and Supplemental Rate Per Hour: 50% of Journeyman's rate

### **Tile Layer - Setter - Second 750 Hours**

Effective Period: 7/1/2016 - 6/30/2017

Wage and Supplemental Rate Per Hour: 55% of Journeyman's rate

### **Tile Layer - Setter - Third 750 Hours**

Effective Period: 7/1/2016 - 6/30/2017

Wage and Supplemental Rate Per Hour: 65% of Journeyman's rate

### **Tile Layer - Setter - Fourth 750 Hours**

Effective Period: 7/1/2016 - 6/30/2017

Wage and Supplemental Rate Per Hour: 75% of Journeyman's rate

### **Tile Layer - Setter - Fifth 750 Hours**

Effective Period: 7/1/2016 - 6/30/2017

Wage and Supplemental Rate Per Hour: 85% of Journeyman's rate

### **Tile Layer - Setter - Sixth 750 Hours**

Effective Period: 7/1/2016 - 6/30/2017

Wage and Supplemental Rate Per Hour: 95% of Journeyman's rate

(Local #7)

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## **TIMBERPERSON**

(Ratio of Apprentice to Journeyman: 1 to 1, 1 to 6)

### **Timberperson - First Year**

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
§220 APPRENTICESHIP PREVAILING WAGE SCHEDULE

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate Per Hour: 40% of Journey person's rate  
Supplemental Rate Per Hour: \$32.33

**Timberperson - Second Year**

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate Per Hour: 50% of Journey person's rate  
Supplemental Rate Per Hour: \$32.33

**Timberperson - Third Year**

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate Per Hour: 65% of Journey person's rate  
Supplemental Rate Per Hour: \$32.33

**Timberperson - Fourth Year**

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate Per Hour: 80% of Journey person's rate  
Supplemental Rate Per Hour: \$32.33

(Local #1536)

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
§220 PREVAILING WAGE SCHEDULE

LABOR LAW §220 PREVAILING WAGE SCHEDULE

Workers, Laborers and Mechanics employed on a public work project must receive not less than the prevailing rate of wage and benefits for the classification of work performed by each upon such public work. Pursuant to Labor Law §220 the Comptroller of the City of New York has promulgated this schedule solely for Workers, Laborers and Mechanics engaged by private contractors on New York City public work contracts.

This schedule is a compilation of separate determinations of the prevailing rate of wage and supplements made by the Comptroller for each trade classification listed herein pursuant to New York State Labor Law section 220 (5). The source of the wage and supplement rates, whether a collective bargaining agreement, survey data or other, is listed at the end of each classification.

Agency Chief Contracting Officers should contact the Bureau of Labor Law's Classification Unit with any questions concerning trade classifications, prevailing rates or prevailing practices with respect to procurement on New York City public works contracts. Contractors are advised to review the Comptroller's Prevailing Wage Schedule before bidding on public works contracts. Contractors with questions concerning trade classifications, prevailing rates or prevailing practices with respect to public works contracts in the procurement stage must contact the contracting agency responsible for the procurement.

Any error as to compensation under the prevailing wage law or other information as to trade classification, made by the contracting agency in the contract documents or in any other communication, will not preclude a finding against the contractor of prevailing wage violation.

Any questions concerning trade classifications, prevailing rates or prevailing practices on New York City public works contracts that have already been awarded may be directed to the Bureau of Labor Law's Classification Unit by calling (212) 669-7974. All callers must have the agency name and contract registration number available when calling with questions on public works contracts. Please direct all other compliance issues to: Bureau of Labor Law, Attn: Wasyl Kinach, P.E., Office of the Comptroller, 1 Centre Street, Room 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](http://www.comptroller.nyc.gov). Contractors must pay the wages and supplements in effect when the worker, laborer, mechanic performs the work. Preliminary schedules for future one-year periods appear in the City Record on or about June 1 each succeeding year. Final schedules appear on or about July 1 in the City Record and on our web site [www.comptroller.nyc.gov](http://www.comptroller.nyc.gov).

The Comptroller's Office has attempted to include all overtime, shift and night differential, Holiday, Saturday, Sunday or other premium time work. However, this schedule does not set forth every prevailing practice with respect to such rates with which employers must comply. All such practices are nevertheless part of the employer's prevailing wage obligation and contained in the collective bargaining agreements of the prevailing wage unions. These collective bargaining agreements are available for inspection by appointment. Requests for appointments may be made by calling (212) 669-4443, Monday through Friday between the hours of 9 a.m. and 5 p.m.

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
§220 PREVAILING WAGE SCHEDULE

Prevailing rates and ratios for apprentices are attached to this schedule in the Appendix. Pursuant to Labor Law §220 (3-e), only apprentices who are individually registered in a bona fide program to which the employer contractor is a participant, registered with the New York State Department of Labor, may be employed on a public work project. Workers who are not journey persons or not registered apprentices pursuant to Labor Law §220 (3-e) may not be substituted for apprentices and must be paid as journey persons.

Public Work construction, reconstruction, demolition, excavation, rehabilitation, repair, renovation, alteration, or improvement contracts awarded pursuant to a Project Labor Agreement ("PLA") in accordance with Labor Law section 222 may have different labor standards for shift, premium and overtime work. Please refer to the PLA's pre-negotiated labor agreements for wage and benefit rates applicable to work performed outside of the regular workday. More information is available at the Mayor's Office of Contract Services (MOCS) web page at <http://www.nyc.gov/html/mocs/html/vendors/pla.shtml>.

All the provisions of Labor Law section 220 remain applicable to PLA work including, but not limited to, the enforcement of prevailing wage requirements by the Comptroller; however, we will enforce shift, premium, overtime and other non-standard rates as they appear in a project's pre-negotiated labor agreement.

In order to meet their obligation to provide prevailing supplemental benefits to each covered employee, employers must either:

- 1) Provide bona-fide 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

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## **ASBESTOS HANDLER**

(Hazardous Material; Disturbs, removes, encapsulates, repairs, or encloses friable asbestos material)

### **Asbestos Handler**

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: \$36.00

Supplemental Benefit Rate per Hour: \$16.45

### **Overtime**

Time and one half the regular rate after an 8 hour day.

Time and one half the regular rate for Sunday.

Time and one half the regular hourly rate after 40 hours in any work week.

### **Overtime Holidays**

Time and one half the regular rate for work on the following holiday(s).

New Year's Day

Good Friday

Memorial Day

Independence Day

Labor Day

Thanksgiving Day

Christmas Day

Easter

### **Paid Holidays**

None

(Local #78 and Local #12A)

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## **BLASTER**

### **Blaster**

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: \$44.93

Supplemental Benefit Rate per Hour: \$46.24

### **Blaster (Hydraulic)**

Effective Period: 7/1/2016 - 6/30/2017

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
\$220 PREVAILING WAGE SCHEDULE

Wage Rate per Hour: \$45.78  
Supplemental Benefit Rate per Hour: \$46.24

**Blaster - Trac Drill Hydraulic**

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate per Hour: \$40.12  
Supplemental Benefit Rate per Hour: \$46.24

**Blaster - Wagon: Air Trac: Quarry Bar: Drillrunners**

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate per Hour: \$39.31  
Supplemental Benefit Rate per Hour: \$46.24

**Blaster - Operators of Jack Hammers**

Chippers: Spaders: Concrete Breakers: and all other pneumatic tools of like usage: Walk Behind Self Propelled Hydraulic Asphalt and Concrete Breakers: Hydro (Water) Demolition

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate per Hour: \$38.23  
Supplemental Benefit Rate per Hour: \$46.24

**Blaster - Powder Carriers**

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate per Hour: \$34.20  
Supplemental Benefit Rate per Hour: \$46.24

**Blaster - Hydraulic Trac Drill Chuck Tender**

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate per Hour: \$32.88  
Supplemental Benefit Rate per Hour: \$46.24

**Blaster - Chuck Tender & Nipper**

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate per Hour: \$32.10  
Supplemental Benefit Rate per Hour: \$46.24

**Blaster - Magazine Keepers: (Watch Person)**

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate per Hour: \$17.80  
Supplemental Benefit Rate per Hour: \$46.24

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
§220 PREVAILING WAGE SCHEDULE

## Overtime Description

### Magazine Keepers:

Time and one half for work performed in excess of forty (40) hours per week and for work performed on Saturdays, Sundays and Holidays.

### All Other Employees:

Time and one-half for the first two hours of overtime Monday through Friday, the first ten hours, the first ten hours of work on Saturday and for Make-up Time. Double time for all hours over ten Monday through Saturday (except make-up hours) and for all hours worked on Sunday and Holidays.

## Overtime Holidays

Double time the regular rate for work on the following holiday(s).

New Year's Day

Memorial Day

Independence Day

Labor Day

Columbus Day

Thanksgiving Day

Christmas Day

## Paid Holidays

None

## Shift Rates

A single shift shall be 8 hours plus an unpaid lunch, starting at 8:00 A.M (or between 6:00 A.M. and 10:00 A.M. on weekdays). When two (2) shifts are employed, each shift shall be 8 hours plus ½ hour unpaid lunch. When three (3) shifts are employed, each shift will work seven and one-half (7 ½) hours, but will be paid for eight (8) hours, since only one-half (½) hour is allowed for mealtime. When two (2) or more shifts are employed, single time will be paid for each shift. The first 8 hours of any and all work performed Monday through Friday inclusive of any off-shift shall be at the single time rate.

(Local #29)

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## BOILERMAKER

### Boilermaker

Effective Period: 7/1/2016 - 12/31/2016

Wage Rate per Hour: \$53.36

Supplemental Benefit Rate per Hour: \$42.33

Supplemental Note: For time and one half overtime - \$62.88 For double overtime - \$83.42

Effective Period: 1/1/2017 - 6/30/2017

Wage Rate per Hour: \$55.23

Supplemental Benefit Rate per Hour: \$42.96

Supplemental Note: For time and one half overtime - \$63.82 For double overtime - \$84.68

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
§220 PREVAILING WAGE SCHEDULE

### Overtime Description

For Repair and Maintenance work:

Time and one half the regular rate after an 8 hour day.

Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

For New Construction work:

Double time the regular rate after an 8 hour day.

Double time the regular time rate for Saturday.

Double time the regular rate for Sunday.

### Overtime Holidays

Double time the regular rate for work on the following holiday(s).

New Year's Day

President's Day

Memorial Day

Independence Day

Columbus Day

Election Day

Veteran's Day

Thanksgiving Day

Christmas Day

Quadruple time the regular rate for work on the following holiday(s).

Labor Day

### Paid Holidays

Good Friday

Day after Thanksgiving

Day before Christmas

Day before New Year's Day

### Shift Rates

When shifts are required, the first shift shall work eight (8) hours at the regular straight-time hourly rate. The second shift shall work seven and one-half (7 ½) hours and receive eight hours at the regular straight time hourly rate plus twenty-five cents (\$0.25) per hour. The third shift shall work seven (7) hours and receive eight hours at the regular straight time hourly rate plus fifty cents (\$0.50) per hour. A thirty (30) minute lunch period shall not be considered as time worked. Work in excess of the above shall be paid overtime at the appropriate new construction work or repair work overtime wage and supplemental benefit hourly rate.

(Local #5)

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## BRICKLAYER

### Bricklayer

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: \$52.59

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
§220 PREVAILING WAGE SCHEDULE

Supplemental Benefit Rate per Hour: **\$30.00**

**Overtime**

Time and one half the regular rate after a 7 hour day.

Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

Saturday may be used as a make-up day at straight time when a day is lost during that week to inclement weather.

**Overtime Holidays**

Double time the regular rate for work on the following holiday(s).

New Year's Day

President's Day

Memorial Day

Independence Day

Labor Day

Thanksgiving Day

Christmas Day

**Paid Holidays**

None

**Shift Rates**

Overtime rates to be paid outside the regular scheduled work day.

(Bricklayer District Council)

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**CARPENTER - BUILDING COMMERCIAL**

**Building Commercial**

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: **\$52.50**

Supplemental Benefit Rate per Hour: **\$46.28**

**Overtime**

Time and one half the regular rate after an 8 hour day.

Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

Saturday may be used as a make-up day at straight time when a day is lost during that week to inclement weather.

**Overtime Holidays**

Double time the regular rate for work on the following holiday(s).

New Year's Day

Washington's Birthday

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
§220 PREVAILING WAGE SCHEDULE

Memorial Day  
Independence Day  
Labor Day  
Columbus Day  
Presidential Election Day  
Thanksgiving Day  
Day after Thanksgiving  
Christmas Day

**Paid Holidays**

None

**Shift Rates**

The second shift will receive one hour at the double time rate of pay for the last hour of the shift; eight hours pay for seven hours of work, nine hours pay for eight hours of work. There must be a first shift in order to work a second shift.

(Carpenters District Council)

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**CARPENTER - HEAVY CONSTRUCTION WORK**  
(Construction of Engineering Structures and Building Foundations)

**Heavy Construction Work**

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: \$51.63

Supplemental Benefit Rate per Hour: \$48.65

**Overtime**

Time and one half the regular rate after an 8 hour day.

Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

Saturday may be used as a make-up day at straight time when a day is lost during that week to inclement weather.

**Overtime Holidays**

Double time the regular rate for work on the following holiday(s).

New Year's Day

President's Day

Memorial Day

Independence Day

Labor Day

Columbus Day

Presidential Election Day

Thanksgiving Day

Christmas Day

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
§220 PREVAILING WAGE SCHEDULE

**Paid Holidays**

None

**Shift Rates**

Off shift work commencing between 5:00 P.M. and 11:00 P.M. shall work eight and one half hours allowing for one half hour for lunch. The wage rate shall be 113% of the straight time hourly wage rate.

(Carpenters District Council)

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**CARPENTER - SIDEWALK SHED, SCAFFOLD AND HOIST**

**Carpenter - Hod Hoist**

(Assisted by Mason Tender)

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: **\$50.50**

Supplemental Benefit Rate per Hour: **\$44.80**

**Overtime**

Time and one half the regular rate after an 8 hour day.

Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

Saturday may be used as a make-up day at straight time when a day is lost during that week to inclement weather.

**Overtime Holidays**

Double time the regular rate for work on the following holiday(s).

New Year's Day

President's Day

Memorial Day

Independence Day

Labor Day

Columbus Day

Presidential Election Day

Thanksgiving Day

Day after Thanksgiving

Christmas Day

**Paid Holidays**

None

**Shift Rates**

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
§220 PREVAILING WAGE SCHEDULE

The second shift will receive one hour at the double time rate of pay for the last hour of the shift; eight hours pay for seven hours of work, nine hours pay for eight hours of work. There must be a first shift in order to work a second shift.

(Carpenters District Council)

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## **CEMENT & CONCRETE WORKER**

### **Cement & Concrete Worker**

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: \$42.48

Supplemental Benefit Rate per Hour: \$23.00

Supplemental Note: \$25.75 on Saturdays; \$28.50 on Sundays & Holidays

### **Cement & Concrete Worker - (Hired after 2/6/2016)**

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: \$32.00

Supplemental Benefit Rate per Hour: \$16.00

Supplemental Note: \$17.25 on Saturdays; \$18.50 on Sundays & Holidays

### **Overtime Description**

Time and one half the regular rate after 7 hour day (time and one half the regular rate after an 8 hour day when working with Dockbuilders on pile cap forms and for work below street level to the top of the foundation wall, not to exceed 2 feet or 3 feet above the sidewalk-brick shelf, when working on the foundation and structure.)

### **Overtime**

Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

### **Overtime Holidays**

Double time the regular rate for work on the following holiday(s).

New Year's Day

President's Day

Good Friday

Memorial Day

Independence Day

Labor Day

Columbus Day

Presidential Election Day

Thanksgiving Day

Christmas Day

### **Paid Holidays**

1/2 day before Christmas Day



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§220 PREVAILING WAGE SCHEDULE

1/2 day before New Year's Day

### Shift Rates

On shift work extending over a twenty-four hour period, all shifts are paid at straight time.

(Cement Concrete Workers District Council)

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## CEMENT MASON

### Cement Mason

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: \$40.72

Supplemental Benefit Rate per Hour: \$38.96

Supplemental Note: For time and one half overtime - \$48.21; For double overtime - \$57.46

### Overtime Description

Time and one-half the regular rate after an 8 hour day, double time the regular rate after 10 hours. Time and one-half the regular rate on Saturday, double time the regular rate after 10 hours. Double time the regular rate on Sunday.

### Overtime Holidays

Double time the regular rate for work on the following holiday(s).

New Year's Day

President's Day

Good Friday

Memorial Day

Independence Day

Labor Day

Columbus Day

Presidential Election Day

Thanksgiving Day

Christmas Day

### Paid Holidays

Any worker who reports to work on Christmas Eve or New Year's Eve pursuant to his employer's instruction shall be entitled to three (3) hours afternoon pay without working.

### Shift Rates

For an off shift day, (work at times other than the regular 7:00 A.M. to 3:30 P.M. work day) a cement mason shall be paid at the regular hourly rate plus a 25% per hour differential. Four Days a week at Ten (10)hour day.

(Local #780) (BCA)

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## **CORE DRILLER**

### **Core Driller**

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: **\$37.82**

Supplemental Benefit Rate per Hour: **\$24.00**

### **Core Driller Helper**

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: **\$30.17**

Supplemental Benefit Rate per Hour: **\$24.00**

### **Core Driller Helper(Third year in the industry)**

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: **\$27.15**

Supplemental Benefit Rate per Hour: **\$24.00**

### **Core Driller Helper (Second year in the industry)**

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: **\$24.14**

Supplemental Benefit Rate per Hour: **\$24.00**

### **Core Driller Helper (First year in the industry)**

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: **\$21.12**

Supplemental Benefit Rate per Hour: **\$24.00**

### **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

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
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Thanksgiving Day  
Christmas Day

### Shift Rates

The shift day shall be the continuous eight and one-half (8½) hours from 6:00 A.M. to 2:30 P.M. and from 2:30 P.M. to 11:00 P.M., including one-half (½) hour of employees regular rate of pay for lunch. When two (2) or more shifts are employed, single time shall be paid for each shift, but those employees employed on a shift other than from 8:00 A.M. to 5:00 P.M. shall, in addition, receive seventy-five cents (\$0.75) per hour differential for each hour worked. When three (3) shifts are needed, each shift shall work seven and one-half (7 ½) hours paid for eight (8) hours of labor and be permitted one-half (½) hour for mealtime.

(Carpenters District Council)

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## DERRICKPERSON AND RIGGER

### Derrick Person & Rigger

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: \$45.48

Supplemental Benefit Rate per Hour: \$50.00

Supplemental Note: The above supplemental rate applies for work performed in Manhattan, Bronx, Brooklyn and Queens. \$51.42 - 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)

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
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## DIVER

### Diver (Marine)

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: \$65.38

Supplemental Benefit Rate per Hour: \$48.65

### Diver Tender (Marine)

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: \$46.44

Supplemental Benefit Rate per Hour: \$48.65

### Overtime

Time and one half the regular rate after an 8 hour day.

Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

Saturday may be used as a make-up day at straight time when a day is lost during that week to inclement weather.

### Overtime Holidays

Double time the regular rate for work on the following holiday(s).

New Year's Day

President's Day

Memorial Day

Independence Day

Labor Day

Columbus Day

Presidential Election Day

Thanksgiving Day

Christmas Day

### Paid Holidays

None

### Shift Rates

When three shifts are utilized each shift shall work seven and one half-hours (7 1/2 hours) and paid for 8 hours, allowing for one half hour for lunch.

(Carpenters District Council)

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## **DOCKBUILDER - PILE DRIVER**

### Dockbuilder - Pile Driver

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: **\$51.63**

Supplemental Benefit Rate per Hour: **\$48.65**

### **Overtime**

Time and one half the regular rate after an 8 hour day.

Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

Saturday may be used as a make-up day at straight time when a day is lost during that week to inclement weather.

### **Overtime Holidays**

Double time the regular rate for work on the following holiday(s).

New Year's Day

President's Day

Memorial Day

Independence Day

Labor Day

Columbus Day

Presidential Election Day

Thanksgiving Day

Christmas Day

### **Paid Holidays**

None

### **Shift Rates**

Off shift work commencing between 5:00 P.M. and 11:00 P.M. shall work eight and one half hours allowing for one half hour for lunch. The wage rate shall be 113% of the straight time hourly wage rate.

(Carpenters District Council)

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## **DRIVER: TRUCK (TEAMSTER)**

### Driver - Dump Truck

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: **\$40.15**

Supplemental Benefit Rate per Hour: **\$43.39**

Supplemental Note: Over 40 hours worked: at time and one half rate - **\$18.44**; at double time rate - **\$24.58**

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**Driver - Tractor Trailer**

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: \$41.46

Supplemental Benefit Rate per Hour: \$43.65

Supplemental Note: Over 40 hours worked: at time and one half rate - \$16.65; at double time rate - \$22.20

**Driver - Euclid & Turnapull Operator**

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: \$42.03

Supplemental Benefit Rate per Hour: \$43.65

Supplemental Note: Over 40 hours worked: at time and one half rate - \$16.65; at double time rate - \$22.20

**Overtime Description**

For Paid Holidays: Holiday pay for all holidays shall be prorated based two hours per day for each day worked in the holiday week, not to exceed 8 hours of holiday pay. For Thanksgiving week, the prorated share shall be 5 1/3 hours of holiday pay for each day worked in Thanksgiving week.

**Overtime**

Time and one half the regular rate after an 8 hour day.

Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

**Overtime Holidays**

Double time the regular rate for work on the following holiday(s).

New Year's Day

President's Day

Memorial Day

Independence Day

Labor Day

Columbus Day

Veteran's Day

Thanksgiving Day

Day after Thanksgiving

Christmas Day

**Paid Holidays**

New Year's Day

President's Day

Memorial Day

Independence Day

Labor Day

Columbus Day

Veteran's Day

Thanksgiving Day

Day after Thanksgiving

Christmas Day

**Shift Rates**

Off single shift work commencing between 6:00 P.M. and 5:00 A.M. shall work eight and one half hours allowing for one half hour for lunch and receive 9 hours pay for 8 hours of work.

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
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**Driver Redi-Mix (Sand & Gravel)**

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: \$36.30

Supplemental Benefit Rate per Hour: \$40.02

Supplemental Note: Over 40 hours worked: time and one half rate \$13.90, double time rate \$18.53

**Overtime Description**

For Paid Holidays: Employees working two (2) days in the calendar week in which the holiday falls are to paid for these holidays, provided they shape each remaining workday during that calendar week.

**Overtime**

Time and one half the regular rate after an 8 hour day.

Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

**Overtime Holidays**

Double time the regular rate for work on the following holiday(s).

President's Day

Columbus Day

Veteran's Day

Triple time the regular rate for work on the following holiday(s).

New Year's Day

Memorial Day

Independence Day

Labor Day

Thanksgiving Day

Christmas Day

**Paid Holidays**

New Year's Day

President's Day

Memorial Day

Independence Day

Labor Day

Columbus Day

Election Day

Thanksgiving Day

Christmas Day

(Local #282)

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OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
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**ELECTRICIAN**

(Including all low voltage cabling carrying data; video; and voice in combination with data and or video.)

**Electrician "A" (Regular Day)**

Effective Period: 7/1/2016 - 5/10/2017

Wage Rate per Hour: **\$54.00**

Supplemental Benefit Rate per Hour: **\$51.86**

Effective Period: 5/11/2017 - 6/30/2017

Wage Rate per Hour: **\$56.00**

Supplemental Benefit Rate per Hour: **\$54.35**

**Electrician "A" (Regular Day Overtime)**

Effective Period: 7/1/2016 - 5/10/2017

Wage Rate per Hour: **\$81.00**

Supplemental Benefit Rate per Hour: **\$55.24**

Effective Period: 5/11/2017 - 6/30/2017

Wage Rate per Hour: **\$84.00**

Supplemental Benefit Rate per Hour: **\$57.86**

**Electrician "A" (Day Shift)**

Effective Period: 7/1/2016 - 5/10/2017

Wage Rate per Hour: **\$54.00**

Supplemental Benefit Rate per Hour: **\$51.86**

Effective Period: 5/11/2017 - 6/30/2017

Wage Rate per Hour: **\$56.00**

Supplemental Benefit Rate per Hour: **\$54.35**

**Electrician "A" (Day Shift Overtime After 8 hours)**

Effective Period: 7/1/2016 - 5/10/2017

Wage Rate per Hour: **\$81.00**

Supplemental Benefit Rate per Hour: **\$55.24**

Effective Period: 5/11/2017 - 6/30/2017

Wage Rate per Hour: **\$84.00**

Supplemental Benefit Rate per Hour: **\$57.86**

**Electrician "A" (Swing Shift)**

Effective Period: 7/1/2016 - 5/10/2017



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Wage Rate per Hour: \$63.36  
Supplemental Benefit Rate per Hour: \$59.01

Effective Period: 5/11/2017 - 6/30/2017  
Wage Rate per Hour: \$65.71  
Supplemental Benefit Rate per Hour: \$61.94

**Electrician "A" (Swing Shift Overtime After 7.5 hours)**

Effective Period: 7/1/2016 - 5/10/2017  
Wage Rate per Hour: \$95.04  
Supplemental Benefit Rate per Hour: \$62.98

Effective Period: 5/11/2017 - 6/30/2017  
Wage Rate per Hour: \$98.57  
Supplemental Benefit Rate per Hour: \$66.05

**Electrician "A" (Graveyard Shift)**

Effective Period: 7/1/2016 - 5/10/2017  
Wage Rate per Hour: \$70.97  
Supplemental Benefit Rate per Hour: \$65.05

Effective Period: 5/11/2017 - 6/30/2017  
Wage Rate per Hour: \$73.60  
Supplemental Benefit Rate per Hour: \$68.33

**Electrician "A" (Graveyard Shift Overtime After 7 hours)**

Effective Period: 7/1/2016 - 5/10/2017  
Wage Rate per Hour: \$106.46  
Supplemental Benefit Rate per Hour: \$69.50

Effective Period: 5/11/2017 - 6/30/2017  
Wage Rate per Hour: \$110.40  
Supplemental Benefit Rate per Hour: \$72.95

**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

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Columbus Day  
Veteran's Day  
Thanksgiving Day  
Day after Thanksgiving  
Christmas Day

**Paid Holidays**  
None

**Shift Rates**

When so elected by the Employer, one or more shifts of at least five days duration may be scheduled as follows:  
Day Shift: 8:00 am to 4:30 pm, Swing Shift 4:30 pm to 12:30 am, Graveyard Shift: 12:30 am to 8:00 am.

For multiple shifts of temporary light and/or power, the temporary light and/or power employee shall be paid for 8 hours at the straight time rate. For three or less workers performing 8 hours temporary light and/or power the supplemental benefit rate is \$25.14 and effective 5/11/17 \$25.67.

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**Electrician "M" (First 8 hours)**

"M" rated work shall be defined as jobbing: electrical work of limited duration and scope, also consisting of repairs and/or replacement of electrical and tele-data equipment. Includes all work necessary to retrofit, service, maintain and repair all kinds of lighting fixtures and local lighting controls and washing and cleaning of foregoing fixtures.

Effective Period: 7/1/2016 - 5/10/2017

Wage Rate per Hour: **\$28.00**

Supplemental Benefit Rate per Hour: **\$21.85**

First and Second Year "M" Wage Rate Per Hour: **\$23.50**

First and Second Year "M" Supplemental Rate: **\$19.54**

Effective Period: 5/11/2017 - 6/30/2017

Wage Rate per Hour: **\$28.50**

Supplemental Benefit Rate per Hour: **\$22.10**

First and Second Year "M" Wage Rate Per Hour: **\$24.00**

First and Second Year "M" Supplemental Rate: **\$19.80**

**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: 7/1/2016 - 5/10/2017

Wage Rate per Hour: **\$42.00**

Supplemental Benefit Rate per Hour: **\$23.60**

First and Second Year "M" Wage Rate Per Hour: **\$35.25**

First and Second Year "M" Supplemental Rate: **\$21.01**

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Effective Period: 5/11/2017 - 6/30/2017

Wage Rate per Hour: \$42.75

Supplemental Benefit Rate per Hour: \$23.89

First and Second Year "M" Wage Rate Per Hour: \$36.00

First and Second Year "M" Supplemental Rate: \$21.30

### Overtime

Time and one half the regular rate after an 8 hour day.

Time and one half the regular rate for Saturday.

Time and one half the regular rate for Sunday.

### Overtime Holidays

Time and one half the regular rate for work on the following holiday(s).

New Year's Day

Martin Luther King Jr. Day

President's Day

Memorial Day

Independence Day

Labor Day

Columbus Day

Veteran's Day

Thanksgiving Day

Day after Thanksgiving

Christmas Day

### Paid Holidays

None

(Local #3)

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## ELECTRICIAN - ALARM TECHNICIAN

(Scope of Work - Inspect, test, repair, and replace defective, malfunctioning, or broken devices, components and controls of Fire, Burglar and Security Systems)

### Alarm Technician

Effective Period: 7/1/2016 - 3/9/2017

Wage Rate per Hour: \$32.00

Supplemental Benefit Rate per Hour: \$15.47

Supplemental Note: \$13.97 only after 8 hours worked in a day

Effective Period: 3/10/2017 - 6/30/2017

Wage Rate per Hour: \$32.40

Supplemental Benefit Rate per Hour: \$16.10

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Supplemental Note: \$14.60 only after 8 hours worked in a day

**Overtime Description**

Time and one half the regular rate for work on the following holidays: Columbus Day, Veterans Day, Day after Thanksgiving.

Double time the regular rate for work on the following holidays: New Year's day, Martin Luther King Jr. Day, President's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Christmas Day.

**Overtime**

Time and one half the regular rate after an 8 hour day.

Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

**Paid Holidays**

- New Year's Day
- Martin Luther King Jr. Day
- President's Day
- Memorial Day
- Independence Day
- Labor Day
- Columbus Day
- Veteran's Day
- Thanksgiving Day
- Day after Thanksgiving
- Christmas Day

**Shift Rates**

Night Differential is based upon a ten percent (10%) differential between the hours of 4:00 P.M. and 12:30 A.M. and a fifteen percent (15%) differential for the hours 12:00 A.M. to 8:00 A.M.

**Vacation**

- At least 1 year of employment.....ten (10) days
- 5 years or more of employment.....fifteen (15) days
- 10 years of employment.....twenty (20) days
- Plus one Personal Day per year

**Sick-Days:**

One day per Year. Up to 4 vacation days may be used as sick days.

(Local #3)

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**ELECTRICIAN-STREET LIGHTING WORKER**

**Electrician - Electro Pole Electrician**

Effective Period: 7/1/2016 - 5/17/2017

Wage Rate per Hour: \$54.00

Supplemental Benefit Rate per Hour: \$53.69

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Effective Period: 5/18/2017 - 6/30/2017

Wage Rate per Hour: \$56.00

Supplemental Benefit Rate per Hour: \$56.26

**Electrician - Electro Pole Foundation Installer**

Effective Period: 7/1/2016 - 5/17/2017

Wage Rate per Hour: \$40.93

Supplemental Benefit Rate per Hour: \$40.12

Effective Period: 5/18/2017 - 6/30/2017

Wage Rate per Hour: \$41.54

Supplemental Benefit Rate per Hour: \$41.02

**Electrician - Electro Pole Maintainer**

Effective Period: 7/1/2016 - 5/17/2017

Wage Rate per Hour: \$35.05

Supplemental Benefit Rate per Hour: \$36.11

Effective Period: 5/18/2017 - 6/30/2017

Wage Rate per Hour: \$35.58

Supplemental Benefit Rate per Hour: \$36.89

**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

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(Local #3)

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## ELEVATOR CONSTRUCTOR

### Elevator Constructor

Effective Period: 7/1/2016 - 3/16/2017

Wage Rate per Hour: \$60.96

Supplemental Benefit Rate per Hour: \$32.65

Effective Period: 3/17/2017 - 6/30/2017

Wage Rate per Hour: \$62.64

Supplemental Benefit Rate per Hour: \$34.25

### Overtime Description

For New Construction: work performed after 7 or 8 hour day, Saturday, Sunday or between 4:30pm and 7:00am shall be paid at double time rate.

Existing buildings: work performed after an 8 hour day, Saturday, Sunday or between 5:30pm and 7:00 am shall be paid time and one half.

### Overtime

Double time the regular rate for work on the following holiday(s).

### Paid Holidays

New Year's Day  
President's Day  
Good Friday  
Memorial Day  
Independence Day  
Labor Day  
Columbus Day  
Veteran's Day  
Thanksgiving Day  
Day after Thanksgiving  
Christmas Day

### Vacation

Employer contributes 8% of regular basic hourly rate as vacation pay for employees with more than 15 years of service, and 6% for employees with 5 to 15 years of service, and 4% for employees with less than 5 years of service.

(Local #1)

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## ELEVATOR REPAIR & MAINTENANCE

### Elevator Service/Modernization Mechanic

Effective Period: 7/1/2016 - 3/16/2017

Wage Rate per Hour: \$47.91

Supplemental Benefit Rate per Hour: \$32.51

Effective Period: 3/17/2017 - 6/30/2017

Wage Rate per Hour: \$49.14

Supplemental Benefit Rate per Hour: \$34.11

### Overtime Description

For Scheduled Service Work: Double time - work scheduled in advance by two or more workers performed on Sundays, Holidays, and between midnight and 7:00am.

### Overtime

Time and one half the regular rate after an 8 hour day.

Time and one half the regular rate for Saturday.

Time and one half the regular rate for Sunday.

Time and one half the regular rate for work on a holiday plus the day's pay.

### Paid Holidays

New Year's Day  
President's Day  
Good Friday  
Memorial Day  
Independence Day  
Labor Day  
Columbus Day  
Veteran's Day  
Thanksgiving Day  
Day after Thanksgiving  
Christmas Day

### Shift Rates

Afternoon shift - regularly hourly rate plus a (15%) fifteen percent differential. Graveyard shift - time and one half the regular rate.

### Vacation

Employer contributes 8% of regular basic hourly rate as vacation pay for employees with more than 15 years of service, and 6% for employees with 5 to 15 years of service, and 4% for employees with less than 5 years of service.

(Local #1)

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## **ENGINEER**

### **Engineer - Heavy Construction Operating Engineer I**

Cherry pickers 20 tons and over and Loaders (rubber tired and/or tractor type with a manufacturer's minimum rated capacity of six cubic yards and over).

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: **\$65.94**

Supplemental Benefit Rate per Hour: **\$35.41**

Supplemental Note: **\$63.67** on overtime

Shift Wage Rate: **\$105.50**

### **Engineer - Heavy Construction Operating Engineer II**

Backhoes, Basin Machines, Groover, Mechanical Sweepers, Bobcat, Boom Truck, Barrier Transport (Barrier Mover) & machines of similar nature. Operation of Churn Drills and machines of a similar nature, Stetco Silent Hoist and machines of similar nature, Vac-Alls, Meyers Machines, John Beam and machines of a similar nature, Ross Carriers and Travel Lifts and machines of a similar nature, Bulldozers, Scrapers and Turn-a-Pulls; Tugger Hoists (Used exclusively for handling excavated material); Tractors with attachments, Hyster and Roustabout Cranes, Cherry pickers. Austin Western, Grove and machines of a similar nature, Scoopmobiles, Monorails, Conveyors, Trenchers: Loaders-Rubber Tired and Tractor: Barber Greene and Eimco Loaders and Eimco 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: 7/1/2016 - 6/30/2017

Wage Rate per Hour: **\$63.98**

Supplemental Benefit Rate per Hour: **\$35.41**

Supplemental Note: **\$63.67** on overtime

Shift Wage Rate: **\$102.37**

### **Engineer - Heavy Construction Operating Engineer III**

Minor Equipment such as Tractors, Post Hole Diggers, Ditch Witch (Walk Behind), Road Finishing Machines, Rollers five tons and under, Tugger Hoists, Dual Purpose Trucks, Fork Lifts, and Dempsey Dumpers, Fireperson.

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: **\$60.69**

Supplemental Benefit Rate per Hour: **\$35.41**

Supplemental Note: **\$63.67** on overtime

Shift Wage Rate: **\$97.10**

### **Engineer - Heavy Construction Maintenance Engineer I**

Installing, Repairing, Maintaining, Dismantling and Manning of all equipment including Steel Cutting, Bending and Heat Sealing Machines, Mechanical Heaters, Grout Pumps, Bentonite Pumps & Plants, Screening Machines, Fusion Coupling Machines, Tunnel Boring Machines Moles and Machines of a similar nature, Power Packs, Mechanical Hydraulic Jacks; all drill rigs including but not limited to Churn, Rotary Caisson, Raised Bore & Drills



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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: 7/1/2016 - 6/30/2017

Wage Rate per Hour: **\$63.68**

Supplemental Benefit Rate per Hour: **\$35.41**

Supplemental Note: \$63.67 on overtime

Shift Wage Rate: **\$101.89**

**Engineer - Heavy Construction Maintenance Engineer II**

On Base Mounted Tower Cranes

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: **\$83.66**

Supplemental Benefit Rate per Hour: **\$35.41**

Supplemental Note: \$63.67 on overtime

Shift Wage Rate: **\$133.86**

**Engineer - Heavy Construction Maintenance Engineer III**

On Generators, Light Towers

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: **\$42.01**

Supplemental Benefit Rate per Hour: **\$35.41**

Supplemental Note: \$63.67 on overtime

Shift Wage Rate: **\$67.22**

**Engineer - Heavy Construction Maintenance Engineer IV**

On Pumps and Mixers including mud sucking

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: **\$43.11**

Supplemental Benefit Rate per Hour: **\$35.41**

Supplemental Note: \$63.67 on overtime

Shift Wage Rate: **\$68.98**

**Engineer - Heavy Construction Oilers I**

Gradalls, Cold Planer Grader, Concrete Pumps, Driving Truck Cranes, Driving and Operating Fuel and Grease Trucks.

Effective Period: 7/1/2016 - 6/30/2017

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
§220 PREVAILING WAGE SCHEDULE

Wage Rate per Hour: \$57.42  
Supplemental Benefit Rate per Hour: \$35.41  
Supplemental Note: \$63.67 on overtime  
Shift Wage Rate: \$91.87

**Engineer - Heavy Construction Oilers II**

All gasoline, electric, diesel or air operated Shovels, Draglines, Backhoes, Keystones, Pavers, Gunite Machines, Battery of Compressors, Crawler Cranes, two-person Trenching Machines.

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate per Hour: \$39.70  
Supplemental Benefit Rate per Hour: \$35.41  
Supplemental Note: \$63.67 on overtime  
Shift Wage Rate: \$63.52

**Engineer - Steel Erection Maintenance Engineers**

Derrick, Travelers, Tower, Crawler Tower and Climbing Cranes

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate per Hour: \$61.13  
Supplemental Benefit Rate per Hour: \$35.41  
Supplemental Note: \$63.67 on overtime  
Shift Wage Rate: \$97.81

**Engineer - Steel Erection Oiler I**

On a Truck Crane

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate per Hour: \$57.21  
Supplemental Benefit Rate per Hour: \$35.41  
Supplemental Note: \$63.67 on overtime  
Shift Wage Rate: \$91.54

**Engineer - Steel Erection Oiler II**

On a Crawler Crane

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate per Hour: \$43.54  
Supplemental Benefit Rate per Hour: \$35.41  
Supplemental Note: \$63.67 on overtime  
Shift Wage Rate: \$69.66

**Overtime Description**

On jobs of more than one shift, if the next shift employee fails to report for work through any cause over which the employer has no control, the employee on duty who works the next shift continues to work at the single time rate.

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
§220 PREVAILING WAGE SCHEDULE

### Overtime

Double time the regular rate after an 8 hour day.  
Double time the regular time rate for Saturday.  
Double time the regular rate for Sunday.  
Double time the regular rate for work on the following holiday(s).

### Paid Holidays

New Year's Day  
Lincoln's Birthday  
President's Day  
Memorial Day  
Independence Day  
Labor Day  
Columbus Day  
Veteran's Day  
Thanksgiving Day  
Day after Thanksgiving  
Christmas Day

Employees must work at least one day in the payroll week in which the holiday occurs to receive the paid holiday

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### Engineer - Building Work Maintenance Engineers I

Installing, repairing, maintaining, dismantling (of all equipment including: Steel Cutting and Bending Machines, Mechanical Heaters, Mine Hoists, Climbing Cranes, Tower Cranes, Linden Peine, Lorain, Liebherr, Mannes, or machines of a similar nature, Well Point Systems, Deep Well Pumps, Concrete Mixers with loading Device, Concrete Plants, Motor Generators when used for temporary power and lights), skid steer machines of a similar nature including bobcat.

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: **\$58.30**

Supplemental Benefit Rate per Hour: **\$35.41**

Supplemental Note: \$63.67 on overtime

### Engineer - Building Work Maintenance Engineers II

On Pumps, Generators, Mixers and Heaters

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: **\$45.28**

Supplemental Benefit Rate per Hour: **\$35.41**

Supplemental Note: \$63.67 on overtime

### Engineer - Building Work Oilers I

All gasoline, electric, diesel or air operated Gradealls: Concrete Pumps, Overhead Cranes in Power Houses: Their duties shall be to assist the Engineer in oiling, greasing and repairing of all machines; Driving Truck Cranes: Driving and Operating Fuel and Grease Trucks, Cherrypickers (hydraulic cranes) over 70,000 GVW, and machines of a similar nature.

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
§220 PREVAILING WAGE SCHEDULE

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: **\$55.42**

Supplemental Benefit Rate per Hour: **\$35.41**

Supplemental Note: \$63.67 on overtime

### Engineer - Building Work Oilers II

Oilers on Crawler Cranes, Backhoes, Trenching Machines, Gunite Machines, Compressors (three or more in Battery).

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: **\$41.16**

Supplemental Benefit Rate per Hour: **\$35.41**

Supplemental Note: \$63.67 on overtime

### **Overtime Description**

On jobs of more than one shift, if an Employee fails to report for work through any cause over which the Employer has no control, the Employee on duty will continue to work at the rate of single time.

### **Overtime**

Double time the regular rate after an 8 hour day.

Double time the regular time rate for Saturday.

Double time the regular rate for Sunday.

Double time the regular rate for work on the following holiday(s).

### **Paid Holidays**

New Year's Day

Lincoln's Birthday

President's Day

Memorial Day

Independence Day

Labor Day

Columbus Day

Veteran's Day

Thanksgiving Day

Christmas Day

Employees must work at least one day in the payroll week in which the holiday occurs to receive the paid holiday

### **Shift Rates**

Off Shift: double time the regular hourly rate.

(Local #15)

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## **ENGINEER - CITY SURVEYOR AND CONSULTANT**

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
§220 PREVAILING WAGE SCHEDULE

**Party Chief**

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: \$38.18

Supplemental Benefit Rate per Hour: \$20.15

Supplemental Note: Overtime Benefit Rate - \$27.65 per hour (time & one half) \$35.15 per hour (double time).

**Instrument Person**

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: \$31.47

Supplemental Benefit Rate per Hour: \$20.15

Supplemental Note: Overtime Benefit Rate - \$27.65 per hour (time & one half) \$35.15 per hour (double time).

**Rodperson**

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: \$27.24

Supplemental Benefit Rate per Hour: \$20.15

Supplemental Note: Overtime Benefit Rate - \$27.65 per hour (time & one half) \$35.15 per hour (double time).

**Overtime Description**

Time and one half the regular rate after an 8 hour day, Time and one half the regular rate for Saturday for the first eight hours worked, Double time the regular time rate for Saturday for work performed in excess of eight hours, Double time the regular rate for Sunday and Double time the regular rate for work on a holiday.

**Paid Holidays**

New Year's Day

Lincoln's Birthday

President's Day

Memorial Day

Independence Day

Labor Day

Columbus Day

Veteran's Day

Thanksgiving Day

Day after Thanksgiving

Christmas Day

Employees must work at least one day in the payroll week in which the holiday occurs to receive the paid holiday

(Operating Engineer Local #15-D)

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**ENGINEER - FIELD (BUILDING CONSTRUCTION)**

(Construction of Building Projects, Concrete Superstructures, etc.)

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
§220 PREVAILING WAGE SCHEDULE

**Field Engineer - BC Party Chief**

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: \$60.10

Supplemental Benefit Rate per Hour: \$32.15

Supplemental Note: Overtime Benefit Rate - \$44.90 per hour (time & one half) \$57.65 per hour (double time).

**Field Engineer - BC Instrument Person**

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: \$46.69

Supplemental Benefit Rate per Hour: \$32.15

Supplemental Note: Overtime Benefit Rate - \$44.90 per hour (time & one half) \$57.65 per hour (double time).

**Field Engineer - BC Rodperson**

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: \$30.20

Supplemental Benefit Rate per Hour: \$32.15

Supplemental Note: Overtime Benefit Rate - \$44.90 per hour (time & one half) \$57.65 per hour (double time).

**Overtime Description**

Time and one half the regular rate after a 7 hour work and time and one half the regular rate for Saturday for the first seven hours worked, Double time the regular time rate for Saturday for work performed in excess of seven hours, Double time the regular rate for Sunday and Double time the regular rate for work on a holiday.

**Paid Holidays**

New Year's Day

President's Day

Good Friday

Memorial Day

Independence Day

Labor Day

Columbus Day

Veteran's Day

Thanksgiving Day

Christmas Day

Employees must work at least one day in the payroll week in which the holiday occurs to receive the paid holiday

(Operating Engineer Local #15-D)

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**ENGINEER - FIELD (HEAVY CONSTRUCTION)**

(Construction of Roads, Tunnels, Bridges, Sewers, Building Foundations, Engineering Structures etc.)

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
§220 PREVAILING WAGE SCHEDULE

**Field Engineer - HC Party Chief**

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: \$68.09

Supplemental Benefit Rate per Hour: \$33.54

Supplemental Note: Overtime benefit rate - \$46.86 per hour (time & one half), \$60.18 per hour (double time).

**Field Engineer - HC Instrument Person**

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: \$49.98

Supplemental Benefit Rate per Hour: \$33.54

Supplemental Note: Overtime benefit rate - \$46.86 per hour (time & one half), \$60.18 per hour (double time).

**Field Engineer - HC Rodperson**

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: \$41.93

Supplemental Benefit Rate per Hour: \$33.54

Supplemental Note: Overtime benefit rate - \$46.86 per hour (time & one half), \$60.18 per hour (double time).

**Overtime Description**

Time and one half the regular rate after an 8 hour day, Time and one half the regular rate for Saturday for the first eight hours worked, Double time the regular time rate for Saturday for work performed in excess of eight hours, Double time the regular rate for Sunday and Double time the regular rate for work on a holiday.

**Paid Holidays**

New Year's Day

Lincoln's Birthday

President's Day

Memorial Day

Independence Day

Labor Day

Columbus Day

Veteran's Day

Thanksgiving Day

Christmas Day

Employees must work at least one day in the payroll week in which the holiday occurs to receive the paid holiday

(Operating Engineer Local #15-D)

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**ENGINEER - FIELD (STEEL ERECTION)**

**Field Engineer - Steel Erection Party Chief**

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
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Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: **\$63.64**

Supplemental Benefit Rate per Hour: **\$33.04**

Supplemental Note: Overtime benefit rate - \$46.11 per hour (time & one half), \$59.18 per hour (double time).

**Field Engineer - Steel Erection Instrument Person**

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: **\$49.59**

Supplemental Benefit Rate per Hour: **\$33.04**

Supplemental Note: Overtime benefit rate - \$46.11 per hour (time & one half), \$59.18 per hour (double time).

**Field Engineer - Steel Erection Rodperson**

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: **\$33.20**

Supplemental Benefit Rate per Hour: **\$33.04**

Supplemental Note: Overtime benefit rate - \$46.11 per hour (time & one half), \$59.18 per hour (double time).

**Overtime Description**

Time and one half the regular rate for Saturday for the first eight hours worked.

Double time the regular rate for Saturday for work performed in excess of eight hours.

**Overtime**

Time and one half the regular rate after an 8 hour day.

Double time the regular rate for Sunday.

Double time the regular rate for work on the following holiday(s).

**Paid Holidays**

New Year's Day

Lincoln's Birthday

President's Day

Memorial Day

Independence Day

Labor Day

Columbus Day

Veteran's Day

Thanksgiving Day

Christmas Day

Employees must work at least one day in the payroll week in which the holiday occurs to receive the paid holiday

(Operating Engineer Local #15-D)

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**ENGINEER - OPERATING**

**Operating Engineer - Road & Heavy Construction I**



OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
§220 PREVAILING WAGE SCHEDULE

Back Filling Machines, Cranes, Mucking Machines and Dual Drum Paver.

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: \$73.90

Supplemental Benefit Rate per Hour: \$31.10

Supplemental Note: \$56.50 overtime hours

Shift Wage Rate: \$118.24

**Operating Engineer - Road & Heavy Construction II**

Backhoes, Power Shovels, Hydraulic Clam Shells, Steel Erection, Moles and machines of a similar nature.

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: \$76.51

Supplemental Benefit Rate per Hour: \$31.10

Supplemental Note: \$56.50 overtime hours

Shift Wage Rate: \$122.42

**Operating Engineer - Road & Heavy Construction III**

Mine Hoists, Cranes, etc. (Used as Mine Hoists)

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: \$78.96

Supplemental Benefit Rate per Hour: \$31.10

Supplemental Note: \$56.50 overtime hours

Shift Wage Rate: \$126.34

**Operating Engineer - Road & Heavy Construction IV**

Gradealls, Keystones, Cranes on land or water (with digging buckets), Bridge Cranes, Vermeer Cutter and machines of a similar nature, Trenching Machines.

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: \$77.07

Supplemental Benefit Rate per Hour: \$31.10

Supplemental Note: \$56.50 overtime hours

Shift Wage Rate: \$123.31

**Operating Engineer - Road & Heavy Construction V**

Pile Drivers & Rigs (employing Dock Builder foreperson): Derrick Boats, Tunnel Shovels.

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: \$75.55

Supplemental Benefit Rate per Hour: \$31.10

Supplemental Note: \$56.50 overtime hours

Shift Wage Rate: \$120.88

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**Operating Engineer - Road & Heavy Construction VI**

Mixers (Concrete with loading attachment), Concrete Pavers, Cableways, Land Derricks, Power Houses (Low Air Pressure Units).

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: **\$71.78**

Supplemental Benefit Rate per Hour: **\$31.10**

Supplemental Note: \$56.50 overtime hours

Shift Wage Rate: **\$114.85**

**Operating Engineer - Road & Heavy Construction VII**

Barrier Movers , Barrier Transport and Machines of a Similar Nature.

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: **\$57.96**

Supplemental Benefit Rate per Hour: **\$31.10**

Supplemental Note: \$56.50 overtime hours

Shift Wage Rate: **\$92.74**

**Operating Engineer - Road & Heavy Construction VIII**

Utility Compressors

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: **\$44.98**

Supplemental Benefit Rate per Hour: **\$31.10**

Supplemental Note: \$56.50 overtime hours

Shift Wage Rate: **\$56.70**

**Operating Engineer - Road & Heavy Construction IX**

Horizontal Boring Rig

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: **\$68.25**

Supplemental Benefit Rate per Hour: **\$31.10**

Supplemental Note: \$56.50 overtime hours

Shift Wage Rate: **\$109.20**

**Operating Engineer - Road & Heavy Construction X**

Elevators (manually operated as personnel hoist).

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: **\$62.73**

Supplemental Benefit Rate per Hour: **\$31.10**

Supplemental Note: \$56.50 overtime hours

Shift Wage Rate: **\$100.37**

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**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: 7/1/2016 - 6/30/2017

Wage Rate per Hour: \$48.73

Supplemental Benefit Rate per Hour: \$31.10

Supplemental Note: \$56.50 overtime hours

Shift Wage Rate: \$77.97

**Operating Engineer - Road & Heavy Construction XII**

All Drills and Machines of a similar nature.

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: \$72.53

Supplemental Benefit Rate per Hour: \$31.10

Supplemental Note: \$56.50 overtime hours

Shift Wage Rate: \$116.05

**Operating Engineer - Road & Heavy Construction XIII**

Concrete Pumps, Concrete Plant, Stone Crushers, Double Drum Hoist, Power Houses (other than above).

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: \$70.24

Supplemental Benefit Rate per Hour: \$31.10

Supplemental Note: \$56.50 overtime hours

Shift Wage Rate: \$112.38

**Operating Engineer - Road & Heavy Construction XIV**

Concrete Mixer

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: \$67.16

Supplemental Benefit Rate per Hour: \$31.10

Supplemental Note: \$56.50 overtime hours

Shift Wage Rate: \$107.46

**Operating Engineer - Road & Heavy Construction XV**

Compressors (Portable Single or two in Battery, not over 100 feet apart), Pumps (River Cofferdam) and Welding Machines, Push Button Machines, All Engines Irrespective of Power (Power-Pac) used to drive auxiliary equipment, Air, Hydraulic, etc.

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: \$45.27

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
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Supplemental Benefit Rate per Hour: \$31.10  
Supplemental Note: \$56.50 overtime hours  
Shift Wage Rate: \$72.43

**Operating Engineer - Road & Heavy Construction XVI**

Concrete Breaking Machines, Hoists (Single Drum), Load Masters, Locomotives (over ten tons) and Dinkies over ten tons, Hydraulic Crane-Second Engineer.

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate per Hour: \$64.13  
Supplemental Benefit Rate per Hour: \$31.10  
Supplemental Note: \$56.50 overtime hours  
Shift Wage Rate: \$102.61

**Operating Engineer - Road & Heavy Construction XVII**

On-Site concrete plant engineer, On-site Asphalt Plant Engineer, and Vibratory console.

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate per Hour: \$64.63  
Supplemental Benefit Rate per Hour: \$31.10  
Supplemental Note: \$56.50 overtime hours  
Shift Wage Rate: \$103.41

**Operating Engineer - Road & Heavy Construction XVIII**

Tower Crane

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate per Hour: \$92.76  
Supplemental Benefit Rate per Hour: \$31.10  
Supplemental Note: \$56.50 overtime hours  
Shift Wage Rate: \$148.42

**Operating Engineer - Paving I**

Asphalt Spreaders, Autogrades (C.M.I.), Roto/Mil

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate per Hour: \$71.78  
Supplemental Benefit Rate per Hour: \$31.10  
Supplemental Note: \$56.50 overtime hours  
Shift Wage Rate: \$114.85

**Operating Engineer - Paving II**

Asphalt Roller

Effective Period: 7/1/2016 - 6/30/2017

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
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Wage Rate per Hour: **\$69.91**  
Supplemental Benefit Rate per Hour: **\$31.10**  
Supplemental Note: **\$56.50** overtime hours  
Shift Wage Rate: **\$111.86**

**Operating Engineer - Paving III**

Asphalt Plants

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate per Hour: **\$59.14**  
Supplemental Benefit Rate per Hour: **\$31.10**  
Supplemental Note: **\$56.50** overtime hours  
Shift Wage Rate: **\$94.62**

**Operating Engineer - Concrete I**

Cranes

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate per Hour: **\$76.73**  
Supplemental Benefit Rate per Hour: **\$31.10**  
Supplemental Note: **\$56.50** overtime hours

**Operating Engineer - Concrete II**

Compressors

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate per Hour: **\$45.62**  
Supplemental Benefit Rate per Hour: **\$31.10**  
Supplemental Note: **\$56.50** overtime hours

**Operating Engineer - Concrete III**

Micro-traps (Negative Air Machines), Vac-All Remediation System.

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate per Hour: **\$61.31**  
Supplemental Benefit Rate per Hour: **\$31.10**  
Supplemental Note: **\$56.50** overtime hours

**Operating Engineer - Steel Erection I**

Three Drum Derricks

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate per Hour: **\$79.54**  
Supplemental Benefit Rate per Hour: **\$31.10**  
Supplemental Note: **\$56.50** overtime hours

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§220 PREVAILING WAGE SCHEDULE

Shift Wage Rate: \$127.26

**Operating Engineer - Steel Erection II**

Cranes, 2 Drum Derricks, Hydraulic Cranes, Fork Lifts and Boom Trucks.

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: \$76.43

Supplemental Benefit Rate per Hour: \$31.10

Supplemental Note: \$56.50 overtime hours

Shift Wage Rate: \$122.29

**Operating Engineer - Steel Erection III**

Compressors, Welding Machines.

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: \$45.34

Supplemental Benefit Rate per Hour: \$31.10

Supplemental Note: \$56.50 overtime hours

Shift Wage Rate: \$72.54

**Operating Engineer - Steel Erection IV**

Compressors - Not Combined with Welding Machine.

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: \$43.17

Supplemental Benefit Rate per Hour: \$31.10

Supplemental Note: \$56.50 overtime hours

Shift Wage Rate: \$69.07

**Operating Engineer - Building Work I**

Forklifts, Plaster (Platform machine), Plaster Bucket, Concrete Pump and all other equipment used for hoisting material.

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: \$63.12

Supplemental Benefit Rate per Hour: \$31.10

Supplemental Note: \$56.50 overtime hours

**Operating Engineer - Building Work II**

Compressors, Welding Machines (Cutting Concrete-Tank Work), Paint Spraying, Sandblasting, Pumps (with the exclusion of Concrete Pumps), All Engines irrespective of Power (Power-Pac) used to drive Auxiliary Equipment, Air, Hydraulic, Jacking System, etc.

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: \$47.26

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
§220 PREVAILING WAGE SCHEDULE

Supplemental Benefit Rate per Hour: \$31.10  
Supplemental Note: \$56.50 overtime hours

Operating Engineer - Building Work III

Double Drum

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate per Hour: \$71.85  
Supplemental Benefit Rate per Hour: \$31.10  
Supplemental Note: \$56.50 overtime hours

Operating Engineer - Building Work IV

Stone Derrick, Cranes, Hydraulic Cranes Boom Trucks.

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate per Hour: \$76.12  
Supplemental Benefit Rate per Hour: \$31.10  
Supplemental Note: \$56.50 overtime hours

Operating Engineer - Building Work V

Dismantling and Erection of Cranes, Relief Engineer.

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate per Hour: \$70.13  
Supplemental Benefit Rate per Hour: \$31.10  
Supplemental Note: \$56.50 overtime hours

Operating Engineer - Building Work VI

4 Pole Hoist, Single Drum Hoists.

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate per Hour: \$69.39  
Supplemental Benefit Rate per Hour: \$31.10  
Supplemental Note: \$56.50 overtime hours

Operating Engineer - Building Work VII

Rack & Pinion and House Cars

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate per Hour: \$55.17  
Supplemental Benefit Rate per Hour: \$31.10  
Supplemental Note: \$56.50 overtime hours  
For New House Car projects Wage Rate per Hour \$44.02

Overtime Description

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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)

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## FLOOR COVERER

(Interior vinyl composition tile, sheath vinyl linoleum and wood parquet tile including site preparation and synthetic turf not including site preparation)

### Floor Coverer

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: \$50.50

Supplemental Benefit Rate per Hour: \$45.88

### Overtime

Time and one half the regular rate after an 8 hour day.



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  
Presidential Election Day  
Thanksgiving Day  
Day after Thanksgiving  
Christmas Day

### Paid Holidays

1/2 day on Christmas Eve if work is performed in the A.M.  
1/2 day on New Year's Eve if work is performed in the A.M.

### Shift Rates

Two shifts may be utilized with the first shift working 8:00 A.M. to the end of the shift at the straight time of pay. The second shift will receive one hour at double time rate for the last hour of the shift. (eight for seven, nine for eight).

(Carpenters District Council)

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## GLAZIER

(New Construction, Remodeling, and Alteration)

### Glazier

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: **\$44.45**

Supplemental Benefit Rate per Hour: **\$37.84**

Supplemental Note: Supplemental Benefit Overtime Rate: \$46.84

### 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.

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
§220 PREVAILING WAGE SCHEDULE

**Overtime Holidays**

Double time the regular rate for work on the following holiday(s).

New Year's Day  
President's Day  
Memorial Day  
Independence Day  
Labor Day  
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)

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**GLAZIER - REPAIR & MAINTENANCE**

(For the Installation of Glass - All repair and maintenance work on a particular building, whenever performed, where the total cumulative contract value is under \$127,628. Except where enumerated (i.e. plate glass windows) does not apply to non-residential buildings.)

**Craft Jurisdiction for repair, maintenance and fabrication**

Plate glass replacement, Residential glass replacement, Residential mirrors and shower doors, Storm windows and storm doors, Residential replacement windows, Herculite door repairs, Door closer repairs, Retrofit apartment house (non commercial buildings), Glass tinting.

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: \$23.78

Supplemental Benefit Rate per Hour: \$20.14

**Overtime**

Time and one half the regular rate after an 8 hour day.

Double time the regular rate for Sunday.

Time and one half the regular hourly rate after 40 hours in any work week.

**Paid Holidays**

New Year's Day  
President's Day

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

(Local #1281)

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## HEAT AND FROST INSULATOR

### Heat & Frost Insulator

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: \$57.78

Supplemental Benefit Rate per Hour: \$38.96

### Overtime Description

Double time shall be paid for supplemental benefits during overtime work.  
8th hour paid at time and one half.

### Overtime

Double time the regular rate after an 8 hour day.

Double time the regular time rate for Saturday.

Double time the regular rate for Sunday.

### Overtime Holidays

Double time the regular rate for work on the following holiday(s).

New Year's Day  
Martin Luther King Jr. Day  
President's Day  
Memorial Day  
Independence Day  
Columbus Day  
Veteran's Day  
Thanksgiving Day  
Day after Thanksgiving  
Christmas Day

Triple time the regular rate for work on the following holiday(s).

Labor Day

### Paid Holidays

None

### Shift Rates

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
§220 PREVAILING WAGE SCHEDULE

The first shift shall work seven hours at the regular straight time rate. The second and third shift shall work seven hours the regular straight time hourly rate plus a fourteen percent wage and benefit premium. Off hour work in occupied or retail buildings may be worked on weekdays with an increment of \$1.00 per hour and eight hours pay for seven (7) hours worked. Double time will apply for over seven (7) hours worked on weekdays, weekends or holidays.

(Local #12) (BCA)

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## 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: 7/1/2016 - 6/30/2017

Wage Rate per Hour: **\$36.33**

Supplemental Benefit Rate per Hour: **\$27.77**

### House Wrecker - Tier B

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: **\$25.56**

Supplemental Benefit Rate per Hour: **\$20.45**

### **Overtime**

Time and one half the regular rate after an 8 hour day.

Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

### **Overtime Holidays**

Double time the regular rate for work on the following holiday(s).

New Year's Day

President's Day

Memorial Day

Independence Day

Labor Day

Thanksgiving Day

Christmas Day

### **Paid Holidays**

None

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
§220 PREVAILING WAGE SCHEDULE

(Mason Tenders District Council)

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## IRON WORKER - ORNAMENTAL

### Iron Worker - Ornamental

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: \$43.75

Supplemental Benefit Rate per Hour: \$49.57

Supplemental Note: Supplemental benefits are to be paid at the applicable overtime rate when overtime is in effect.

### Overtime Description

Time and one half the regular rate after a 7 hour day for a maximum of two hours on any regular work day (the 8th and 9th hour) and double time shall be paid for all work on a regular work day thereafter, time and one half the regular rate for Saturday for the first seven hours of work and double time shall be paid for all work on a Saturday thereafter.

### Overtime

Double time the regular rate for Sunday.

### Overtime Holidays

Double time the regular rate for work on the following holiday(s).

New Year's Day  
President's Day  
Memorial Day  
Independence Day  
Labor Day  
Thanksgiving Day  
Christmas Day

### Paid Holidays

None

### Shift Rates

For off shift work - 8 hours pay for 7 hours of work. When two or three shifts are employed on a job, Monday through Friday, the workday for each shift shall be seven hours and paid for ten and one-half hours at the single time rate. When two or three shifts are worked on Saturday, Sunday or holidays, each shift shall be seven hours and paid fifteen and three-quarters hours.

(Local #580)

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OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
§220 PREVAILING WAGE SCHEDULE

## IRON WORKER - STRUCTURAL

### Iron Worker - Structural

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: \$49.50

Supplemental Benefit Rate per Hour: \$69.74

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

President's Day

Memorial Day

Independence Day

Labor Day

Thanksgiving Day

Christmas Day

### Paid Holidays

1/2 day on Christmas Eve if work is performed in the A.M.

1/2 day on New Year's Eve if work is performed in the A.M.

### Shift Rates

Monday through Friday - First Shift: First eight hours are paid at straight time, the 9th & 10th hours are paid at time and a half, double time paid thereafter. Second and third Shifts: First eight hours are paid at time and one-half, double time thereafter. Saturdays: All shifts, first eight hours paid at time and one-half, double time thereafter. Sunday all shifts are paid at double time.

(Local #40 & #361)

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## LABORER

(Foundation, Concrete, Excavating, Street Pipe Layer and Common)

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: 7/1/2016 - 6/30/2017

Wage Rate per Hour: \$41.00

Supplemental Benefit Rate per Hour: \$38.63

**Overtime**

Time and one half the regular rate after an 8 hour day.

Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

**Overtime Holidays**

Double time the regular rate for work on the following holiday(s).

New Year's Day

Memorial Day

Independence Day

Labor Day

Columbus Day

Thanksgiving Day

Christmas Day

**Paid Holidays**

Labor Day

Thanksgiving Day

**Shift Rates**

When two shifts are employed, single time rate shall be paid for each shift. When three shifts are found necessary, each shift shall work seven and one half hours (7 ½), but shall be paid for eight (8) hours of labor, and be permitted one half hour for lunch.

(Local #731)

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**LANDSCAPING**

(Landscaping tasks, as well as tree pruning, tree removing, spraying and maintenance in connection with the planting of street trees and the planting of trees in city parks but not when such activities are performed as part of, or in connection with, other construction or reconstruction projects.)

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
\$220 PREVAILING WAGE SCHEDULE

Landscaper (Above 6 years experience)

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: **\$27.00**

Supplemental Benefit Rate per Hour: **\$14.55**

Landscaper (3 - 6 years experience)

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: **\$26.00**

Supplemental Benefit Rate per Hour: **\$14.55**

Landscaper (up to 3 years experience)

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: **\$23.50**

Supplemental Benefit Rate per Hour: **\$14.55**

Groundperson

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: **\$23.50**

Supplemental Benefit Rate per Hour: **\$14.55**

Tree Remover / Pruner

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: **\$32.00**

Supplemental Benefit Rate per Hour: **\$14.55**

Landscaper Sprayer (Pesticide Applicator)

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: **\$22.00**

Supplemental Benefit Rate per Hour: **\$14.55**

Watering - Plant Maintainer

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: **\$17.00**

Supplemental Benefit Rate per Hour: **\$14.55**

Overtime Description

For all overtime work performed, supplemental benefits shall include an additional seventy-five (\$0.75) cents per hour.

Overtime

Time and one half the regular rate after an 8 hour day.



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.  
Time and one half the regular rate for work on a holiday plus the day's pay.

### **Paid Holidays**

New Year's Day  
Memorial Day  
Independence Day  
Labor Day  
Thanksgiving Day  
Christmas Day

### **Shift Rates**

Work performed on a 4pm to 12am shift has a 15% differential. Work performed on a 12am to 8am shift has a 20% differential.

(Local #175)

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## **MARBLE MECHANIC**

### **Marble Setter**

Effective Period: 7/1/2016 - 12/31/2016  
Wage Rate per Hour: **\$52.32**  
Supplemental Benefit Rate per Hour: **\$37.64**

Effective Period: 1/1/2017 - 6/30/2017  
Wage Rate per Hour: **\$52.74**  
Supplemental Benefit Rate per Hour: **\$38.67**

### **Marble Finisher**

Effective Period: 7/1/2016 - 12/31/2016  
Wage Rate per Hour: **\$41.11**  
Supplemental Benefit Rate per Hour: **\$35.91**

Effective Period: 1/1/2017 - 6/30/2017  
Wage Rate per Hour: **\$41.46**  
Supplemental Benefit Rate per Hour: **\$36.64**

### **Marble Polisher**

Effective Period: 7/1/2016 - 12/31/2016  
Wage Rate per Hour: **\$37.49**  
Supplemental Benefit Rate per Hour: **\$27.80**

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
§220 PREVAILING WAGE SCHEDULE

Effective Period: 1/1/2017 - 6/30/2017

Wage Rate per Hour: \$37.93

Supplemental Benefit Rate per Hour: \$28.33

### Overtime Description

Supplemental Benefit contributions are to be made at the applicable overtime rates. Time and one half the regular rate after a 7 hour day or time and one half the regular rate after an 8 hour day - chosen by Employer at the start of the project and then would last for the full duration of the project.

### Overtime

Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

### Overtime Holidays

Double time the regular rate for work on the following holiday(s).

New Year's Day

President's Day

Good Friday

Memorial Day

Independence Day

Labor Day

Columbus Day

Veteran's Day

Thanksgiving Day

Day after Thanksgiving

Christmas Day

### Paid Holidays

None

(Local #7)

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## MASON TENDER

### Mason Tender

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: \$37.55

Supplemental Benefit Rate per Hour: \$29.04

### Overtime

Time and one half the regular rate after an 8 hour day.

Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
§220 PREVAILING WAGE SCHEDULE

Saturday may be used as a make-up day at straight time when a day is lost during that week to inclement weather.

### Overtime Holidays

Double time the regular rate for work on the following holiday(s).

New Year's Day  
President's Day  
Memorial Day  
Independence Day  
Labor Day  
Thanksgiving Day  
Christmas Day

### Paid Holidays

None

### Shift Rates

The Employer may work two (2) shifts with the first shift at the straight time wage rate and the second shift receiving eight (8) hours paid for seven (7) hours work at the straight time wage rate.

(Local #79)

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## MASON TENDER (INTERIOR DEMOLITION WORKER)

(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: 7/1/2016 - 6/30/2017

Wage Rate per Hour: **\$36.19**

Supplemental Benefit Rate per Hour: **\$22.95**

### 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: 7/1/2016 - 6/30/2017

Wage Rate per Hour: **\$25.38**

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
§220 PREVAILING WAGE SCHEDULE

Supplemental Benefit Rate per Hour: \$17.27

**Overtime**

Time and one half the regular rate after an 8 hour day.  
Time and one half the regular rate for Sunday.

**Overtime Holidays**

Double time the regular rate for work on the following holiday(s).

New Year's Day  
President's Day  
Memorial Day  
Independence Day  
Labor Day  
Thanksgiving Day  
Christmas Day

**Paid Holidays**

None

(Local #79)

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**METALLIC LATHER**

**Metallic Lather**

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: \$44.53

Supplemental Benefit Rate per Hour: \$42.67

Supplemental Note: Supplemental benefits for overtime are paid at the appropriate overtime rate.

**Overtime Description**

Overtime would be time and one half the regular rate after a seven (7) or eight (8) hours workday, which would be set at the start of the job.

**Overtime**

Time and one half the regular rate for Saturday.  
Double time the regular rate for Sunday.

**Overtime Holidays**

Double time the regular rate for work on the following holiday(s).

New Year's Day  
Washington's Birthday  
Memorial Day  
Independence Day  
Labor Day  
Columbus Day

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
§220 PREVAILING WAGE SCHEDULE

Thanksgiving Day  
Christmas Day

### **Paid Holidays**

1/2 day on Christmas Eve if work is performed in the A.M.  
1/2 day on New Year's Eve if work is performed in the A.M.

### **Shift Rates**

There will be no shift differential paid on the first shift if more than one shift is employed. The shift differential will remain \$12/hour on the second and third shift for the first eight (8) hours if worked. There will be no pyramiding on overtime worked on second and third shifts. The time and one half (1.5x) rate will be against the base wage rate, not the shift differential.

(Local #46)

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## **MILLWRIGHT**

### **Millwright**

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: **\$51.50**

Supplemental Benefit Rate per Hour: **\$52.41**

### **Overtime**

Time and one half the regular rate after an 8 hour day.

Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

Saturday may be used as a make-up day at straight time when a day is lost during that week to inclement weather.

### **Overtime Holidays**

Double time the regular rate for work on the following holiday(s).

New Year's Day

President's Day

Good Friday

Memorial Day

Independence Day

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.

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
§220 PREVAILING WAGE SCHEDULE

### Shift Rates

The first shift shall receive the straight time rate of pay. The second shift receives the straight time rate of pay plus fifteen (15%) per cent. Members of the second shift shall be allowed one half hour to eat, with this time being included in the hours of the workday established. There must be a first shift to work a second shift. All additional hours worked shall be paid at the time and one-half rate of pay plus fifteen (15%) per cent for weekday hours.

(Local #740)

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## MOSAIC MECHANIC

### Mosaic Mechanic - Mosaic & Terrazzo Mechanic

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: **\$46.52**

Supplemental Benefit Rate per Hour: **\$39.84**

Supplemental Note: Supplemental benefits for overtime to be paid at the rate of \$50.86 per hour.

### Mosaic Mechanic - Mosaic & Terrazzo Finisher

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: **\$44.91**

Supplemental Benefit Rate per Hour: **\$39.83**

Supplemental Note: Supplemental benefits for overtime to be paid at the rate of \$50.85 per hour.

### Mosaic Mechanic - Machine Operator Grinder

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: **\$44.91**

Supplemental Benefit Rate per Hour: **\$39.83**

Supplemental Note: Supplemental benefits for overtime to be paid at the rate of \$50.85 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

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
§220 PREVAILING WAGE SCHEDULE

Veteran's Day  
Thanksgiving Day  
Day after Thanksgiving  
Christmas Day

**Paid Holidays**  
None

(Local #7)

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## **PAINTER**

### **Painter - Brush & Roller**

Effective Period: 7/1/2016 - 4/30/2017  
Wage Rate per Hour: **\$42.50**  
Supplemental Benefit Rate per Hour: **\$26.62**  
Supplemental Note: \$31.25 on overtime

Effective Period: 5/1/2017 - 6/30/2017  
Wage Rate per Hour: **\$44.10**  
Supplemental Benefit Rate per Hour: **\$27.02**  
Supplemental Note: \$ 31.65 on overtime

### **Spray & Scaffold / Decorative / Sandblast**

Effective Period: 7/1/2016 - 4/30/2017  
Wage Rate per Hour: **\$45.50**  
Supplemental Benefit Rate per Hour: **\$26.62**  
Supplemental Note: \$ 31.25 on overtime

Effective Period: 5/1/2017 - 6/30/2017  
Wage Rate per Hour: **\$47.10**  
Supplemental Benefit Rate per Hour: **\$27.02**  
Supplemental Note: \$ 31.65 on overtime

### **Overtime**

Time and one half the regular rate after a 7 hour day.  
Time and one half the regular rate for Saturday.  
Time and one half the regular rate for Sunday.

### **Overtime Holidays**

Time and one half the regular rate for work on the following holiday(s).  
New Year's Day  
President's Day  
Memorial Day

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
§220 PREVAILING WAGE SCHEDULE

Independence Day  
Labor Day  
Columbus Day  
Thanksgiving Day  
Christmas Day

**Paid Holidays**

None

(District Council of Painters #9)

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**PAINTER - METAL POLISHER**

**METAL POLISHER**

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: \$28.88

Supplemental Benefit Rate per Hour: \$6.96

**METAL POLISHER - NEW CONSTRUCTION**

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: \$29.83

Supplemental Benefit Rate per Hour: \$6.96

**METAL POLISHER - SCAFFOLD OVER 34 FEET**

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: \$32.38

Supplemental Benefit Rate per Hour: \$6.96

**Overtime Description**

All work performed on Saturdays shall be paid at time-in-a half. The exception being; for suspended scaffold work and work deemed as a construction project; an eight (8) hour shift lost during the week due to circumstances beyond the control of the employer, up to a maximum of eight (8) hours per week, may be worked on Saturday at the straight time rate.

**Overtime**

Time and one half the regular rate after an 8 hour day.

Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

Saturday may be used as a make-up day at straight time when a day is lost during that week to inclement weather.

Triple time the regular rate for work on the following holiday(s).



OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
§220 PREVAILING WAGE SCHEDULE

**Paid Holidays**

New Year's Day  
Martin Luther King Jr. Day  
President's Day  
Memorial Day  
Independence Day  
Labor Day  
Columbus Day  
Veteran's Day  
Thanksgiving Day  
Day after Thanksgiving  
Christmas Day

**Shift Rates**

Four Days a week at Ten (10) hours straight a day.

Local 8A-28A

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**PAINTER - STRIPER**

**Striper (paint)**

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: **\$35.00**

Supplemental Benefit Rate per Hour: **\$12.32**

Supplemental Note: Overtime Supplemental Benefit rate - \$8.02; New Hire Rate (0-3 months) - \$0.00

**Lineperson (thermoplastic)**

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: **\$39.00**

Supplemental Benefit Rate per Hour: **\$12.32**

Supplemental Note: Overtime Supplemental Benefit rate - \$8.02; New Hire Rate (0-3 months) - \$0.00

**Overtime**

Time and one half the regular rate after an 8 hour day.

Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

Time and one half the regular rate for work on the following holiday(s).

**Paid Holidays**

New Year's Day  
Good Friday  
Memorial Day  
Independence Day  
Labor Day

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
§220 PREVAILING WAGE SCHEDULE

Columbus Day  
Presidential Election Day  
Thanksgiving Day  
Day after Thanksgiving  
Christmas Day

### Shift Rates

Employees hired before April 1, 2003: 15% night shift premium differential for work commenced at 9:00 PM or later.

### Vacation

Employees with one to two years service shall accrue vacation based on hours worked: 250 hours worked - 1 day vacation; 500 hours worked - 2 days vacation; 750 hours worked - 3 days vacation; 900 hours worked - 4 days vacation; 1,000 hours worked - 5 days vacation. Employees with two to five years service receive two weeks vacation. Employees with five to twenty years service receive three weeks vacation. Employees with twenty to twenty-five years service receive four weeks vacation. Employees with 25 or more years service receive five weeks vacation. Vacation must be taken during winter months. 2 Personal Days except employees hired after 4/1/12 who do not have 2 years of service.

(Local #917)

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## PAINTER - STRUCTURAL STEEL

### Painters on Structural Steel

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: **\$49.00**

Supplemental Benefit Rate per Hour: **\$36.08**

### Painter - Power Tool

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: **\$55.00**

Supplemental Benefit Rate per Hour: **\$36.08**

### 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

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**  
Regular hourly rates plus a ten per cent (10%) differential

(Local #806)

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## **PAPERHANGER**

### Paperhanger

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: **\$43.58**

Supplemental Benefit Rate per Hour: **\$30.73**

Supplemental Note: Supplemental benefits are to be paid at the appropriate straight time and overtime rate.

### **Overtime**

Time and one half the regular rate after a 7 hour day.

Time and one half the regular rate for Saturday.

Time and one half the regular rate for Sunday.

### **Overtime Holidays**

Time and one half the regular rate for work on the following holiday(s).

New Year's Day

President's Day

Memorial Day

Independence Day

Labor Day

Thanksgiving Day

Day after Thanksgiving

Christmas Day

### **Paid Holidays**

None

### **Shift Rates**

Evening shift - 4:30 P.M. to 12:00 Midnight (regular rate of pay); any work performed before 7:00 A.M. shall be at time and one half the regular base rate of pay.

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
§220 PREVAILING WAGE SCHEDULE

(District Council of Painters #9)

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## **PAVER AND ROADBUILDER**

### **Paver & Roadbuilder - Formsetter**

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: **\$45.35**

Supplemental Benefit Rate per Hour: **\$38.95**

### **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: 7/1/2016 - 6/30/2017

Wage Rate per Hour: **\$41.48**

Supplemental Benefit Rate per Hour: **\$38.95**

### **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: 7/1/2016 - 6/30/2017

Wage Rate per Hour: **\$45.95**

Supplemental Benefit Rate per Hour: **\$38.95**

### **Production Paver & Roadbuilder - Raker**

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: **\$45.35**

Supplemental Benefit Rate per Hour: **\$38.95**

### **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: 7/1/2016 - 6/30/2017

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
§220 PREVAILING WAGE SCHEDULE

Wage Rate per Hour: \$42.06

Supplemental Benefit Rate per Hour: \$38.95

### Overtime Description

If an employee works New Year's Day or Christmas Day, they receive the single time rate plus 25%.

### Overtime

Time and one half the regular rate after an 8 hour day.

Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

### Overtime Holidays

Double time the regular rate for work on the following holiday(s).

Memorial Day

Independence Day

Labor Day

Columbus Day

Thanksgiving Day

### Shift Rates

When two shifts are employed, the work period for each shift shall be a continuous eight (8) hours. When three shifts are employed, each shift will work seven and one half (7 ½) hours but will be paid for eight (8) hours since only one half (1/2) hour is allowed for meal time.

When two or more shifts are employed, single time will be paid for each shift.

**Night Work** - On night work, the first eight (8) hours of work will be paid for at the single time rate, except that production paving work shall be paid at 10% over the single time rate for the screed person, rakers and shovelers directly involved only. This differential is to be paid when there is only one shift and the shift works at night. All other workers will be exempt. Hours worked over eight (8) hours during said shift shall be paid for at the time and one-half rate.

(Local #1010)

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## PLASTERER

### Plasterer

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: \$43.93

Supplemental Benefit Rate per Hour: \$28.10

### Overtime

Time and one half the regular rate after a 7 hour day.

Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

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  
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 #262)

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## PLASTERER - TENDER

### Plasterer - Tender

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: \$37.55

Supplemental Benefit Rate per Hour: \$29.04

### 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

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  
Washington's Birthday  
Memorial Day  
Independence Day  
Labor Day  
Presidential Election Day  
Thanksgiving Day  
Christmas Day

### **Paid Holidays**

None

### **Shift Rates**

When work commences outside regular work hours, workers receive an hour additional (differential) wage and supplement payment. Eight hours pay for seven hours work or nine hours pay for eight hours work.

(Mason Tenders District Council)

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## **PLUMBER**

### **Plumber**

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: **\$65.67**

Supplemental Benefit Rate per Hour: **\$29.28**

Supplemental Note: Overtime supplemental benefit rate per hour: **\$58.28**

### **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: 7/1/2016 - 6/30/2017

Wage Rate per Hour: **\$52.56**

Supplemental Benefit Rate per Hour: **\$23.40**

### **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.

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
§220 PREVAILING WAGE SCHEDULE

### Overtime Holidays

Double time the regular rate for work on the following holiday(s).

New Year's Day  
President's Day  
Memorial Day  
Independence Day  
Labor Day  
Columbus Day  
Veteran's Day  
Thanksgiving Day  
Day after Thanksgiving  
Christmas Day

### Shift Rates

Shift work, when directly specified in public agency or authority documents where plumbing contract is \$8 million or less, will be permitted. 30% shift premium shall be paid for wages and fringe benefits for 4:00 pm and midnight shifts Monday to Friday. 50% shift premium shall be paid for wages and fringe benefits for 4:00 pm and midnight shift work performed on weekends. For shift work on holidays, double time wages and fringe benefits shall be paid.

(Plumbers Local #1)

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## PLUMBER (MECHANICAL EQUIPMENT AND SERVICE)

(Mechanical Equipment and Service work shall include any repair and/or replacement of the present plumbing system.)

### Plumber

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: \$39.42

Supplemental Benefit Rate per Hour: \$14.19

### Overtime

Time and one half the regular rate after an 8 hour day.

Time and one half the regular rate for Saturday.

Time and one half the regular rate for Sunday.

### Overtime Holidays

Time and one half the regular rate for work on the following holiday(s).

New Year's Day  
President's Day  
Memorial Day  
Independence Day  
Thanksgiving Day



OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
§220 PREVAILING WAGE SCHEDULE

Day after Thanksgiving  
Christmas Day

**Paid Holidays**

None

(Plumbers Local # 1)

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**PLUMBER (RESIDENTIAL RATES FOR 1, 2 AND 3 FAMILY HOME CONSTRUCTION)**

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: \$45.47

Supplemental Benefit Rate per Hour: \$21.26

**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.

(Plumbers Local #1)

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OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
§220 PREVAILING WAGE SCHEDULE

**PLUMBER: PUMP & TANK**  
Oil Trades (Installation and Maintenance)

**Plumber - Pump & Tank**

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: \$63.52

Supplemental Benefit Rate per Hour: \$22.91

**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)

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**POINTER, WATERPROOFER, CAULKER, SANDBLASTER,  
STEAMBLASTER**  
(Exterior Building Renovation)

**Journey person**

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
§220 PREVAILING WAGE SCHEDULE

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: \$50.04

Supplemental Benefit Rate per Hour: \$26.15

### Overtime

Time and one half the regular rate after an 8 hour day.

Time and one half the regular rate for Saturday.

Time and one half the regular rate for Sunday.

Saturday may be used as a make-up day at straight time when a day is lost during that week to inclement weather.

### Overtime Holidays

Time and one half the regular rate for work on the following holiday(s).

New Year's Day

Martin Luther King Jr. Day

President's Day

Memorial Day

Independence Day

Labor Day

Thanksgiving Day

Christmas Day

### Paid Holidays

None

### Shift Rates

All work outside the regular work day (an eight hour workday between the hours of 6:00 A.M. and 4:30 P.M.) is to be paid at time and one half the regular rate.

(Bricklayer District Council)

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## ROOFER

### Roofer

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: \$40.70

Supplemental Benefit Rate per Hour: \$30.17

### 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

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
§220 PREVAILING WAGE SCHEDULE

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  
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)

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**SHEET METAL WORKER**

**Sheet Metal Worker**

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: \$47.70

Supplemental Benefit Rate per Hour: \$46.45

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: 7/1/2016 - 6/30/2017

Wage Rate per Hour: \$38.16

Supplemental Benefit Rate per Hour: \$46.45

**Sheet Metal Worker - Duct Cleaner**

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: \$12.90

Supplemental Benefit Rate per Hour: \$8.07

**Overtime**

Time and one half the regular rate after an 8 hour day.

Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
§220 PREVAILING WAGE SCHEDULE

### Overtime Holidays

Double time the regular rate for work on the following holiday(s).

New Year's Day  
Martin Luther King Jr. Day  
President's Day  
Memorial Day  
Independence Day  
Labor Day  
Columbus Day  
Veteran's Day  
Thanksgiving Day  
Day after Thanksgiving  
Christmas Day

### Paid Holidays

None

### Shift Rates

Work that can only be performed outside regular working hours (eight hours of work between 7:30 A.M. and 3:30 P.M.) - First shift (work between 3:30 P.M. and 11:30 P.M.) - 10% differential above the established hourly rate.  
Second shift (work between 11:30 P.M. and 7:30 A.M.) - 15% differential above the established hourly rate.

For Fan Maintenance: On all full shifts of fan maintenance work the straight time hourly rate of pay will be paid for each shift, including nights, Saturdays, Sundays, and holidays.

(Local #28)

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## SHEET METAL WORKER - SPECIALTY (Decking & Siding)

### 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: 7/1/2016 - 6/30/2017

Wage Rate per Hour: \$43.25

Supplemental Benefit Rate per Hour: \$24.41

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.

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
§220 PREVAILING WAGE SCHEDULE

**Overtime Holidays**

Double time the regular rate for work on the following holiday(s).

New Year's Day  
Martin Luther King Jr. Day  
President's Day  
Memorial Day  
Independence Day  
Labor Day  
Columbus Day  
Veteran's Day  
Thanksgiving Day  
Christmas Day

**Paid Holidays**

None

(Local #28)

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**SHIPYARD WORKER**

**Shipyard Mechanic - First Class**

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: \$28.33

Supplemental Benefit Rate per Hour: \$3.04

**Shipyard Mechanic - Second Class**

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: \$22.18

Supplemental Benefit Rate per Hour: \$2.80

**Shipyard Laborer - First Class**

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: \$20.45

Supplemental Benefit Rate per Hour: \$2.74

**Shipyard Laborer - Second Class**

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: \$14.36

Supplemental Benefit Rate per Hour: \$2.50

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
§220 PREVAILING WAGE SCHEDULE

**Shipyard Dockhand - First Class**

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate per Hour: \$22.70  
Supplemental Benefit Rate per Hour: \$2.82

**Shipyard Dockhand - Second Class**

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate per Hour: \$16.01  
Supplemental Benefit Rate per Hour: \$2.57

**Overtime Description**

Work performed on holiday is paid double time the regular hourly wage rate plus holiday pay.

**Overtime**

Time and one half the regular rate after an 8 hour day.  
Time and one half the regular rate for Saturday.  
Double time the regular rate for Sunday.  
Time and one half the regular hourly rate after 40 hours in any work week.

**Paid Holidays**

New Year's Day  
Martin Luther King Jr. Day  
President's Day  
Good Friday  
Memorial Day  
Independence Day  
Labor Day  
Thanksgiving Day  
Day after Thanksgiving  
Christmas Day

Based on Survey Data

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**SIGN ERECTOR**  
**(Sheet Metal, Plastic, Electric, and Neon)**

**Sign Erector**

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate per Hour: \$46.85  
Supplemental Benefit Rate per Hour: \$48.57

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
§220 PREVAILING WAGE SCHEDULE

**Overtime**

Time and one half the regular rate after a 7 hour day.  
Time and one half the regular rate for Saturday.  
Time and one half the regular rate for Sunday.  
Time and one half the regular rate for work on the following holiday(s).

**Paid Holidays**

New Year's Day  
Washington's Birthday  
Memorial Day  
Independence Day  
Labor Day  
Columbus Day  
Election Day  
Thanksgiving Day  
Day after Thanksgiving  
Christmas Day

**Shift Rates**

Time and one half the regular hourly rate is to be paid for all hours worked outside the regular workday either (7:00 A.M. through 2:30 P.M.) or (8:00 A.M. through 3:30 P.M.)

(Local #137)

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**STEAMFITTER**

**Steamfitter I**

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate per Hour: **\$55.50**  
Supplemental Benefit Rate per Hour: **\$54.29**  
Supplemental Note: Overtime supplemental benefit rate: \$107.84

**Steamfitter -Temporary Services**

The steamfitters shall not do any other work and shall not be permitted to work more than one shift in a twenty-four hour day. When steamfitters are present during the regular working day, no temporary services steamfitter will be required

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate per Hour: **\$42.18**  
Supplemental Benefit Rate per Hour: **\$44.08**

**Overtime**

Double time the regular rate after a 7 hour day.  
Double time the regular time rate for Saturday.



OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
§220 PREVAILING WAGE SCHEDULE

Double time the regular rate for Sunday.

### Overtime Holidays

Double time the regular rate for work on the following holiday(s).

New Year's Day  
President's Day  
Memorial Day  
Independence Day  
Labor Day  
Columbus Day  
Veteran's Day  
Thanksgiving Day  
Day after Thanksgiving  
Christmas Day

### Paid Holidays

None

### Shift Rates

Work performed between 3:30 P.M. and 7:00 A.M. and on Saturdays, Sundays and Holidays shall be at double time the regular hourly rate and paid at the overtime supplemental benefit rate above.

## Steamfitter II

For heating, ventilation, air conditioning and mechanical public works contracts with a dollar value not to exceed \$15,000,000 and for fire protection/sprinkler public works contracts not to exceed \$1,500,000.

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: **\$55.50**

Supplemental Benefit Rate per Hour: **\$54.29**

Supplemental Note: Overtime supplemental benefit rate: **\$107.84**

### Steamfitter -Temporary Services

The steamfitters shall not do any other work and shall not be permitted to work more than one shift in a twenty-four hour day. When steamfitters are present during the regular working day, no temporary services steamfitter will be required.

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: **\$42.18**

Supplemental Benefit Rate per Hour: **\$44.08**

### 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

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
- Veteran's Day
- Thanksgiving Day
- Day after Thanksgiving
- Christmas Day

**Paid Holidays**

None

**Shift Rates**

May be performed outside of the regular workday except Saturday, Sunday and Holidays. A shift shall consist of eight working hours. All work performed in excess of eight hours shall be paid at double time. No shift shall commence after 7:00 P.M. on Friday or 7:00 P.M. the day before holidays. All work performed after 12:01 A.M. Saturday or 12:01 A.M. the day before a Holiday will be paid at double time. When shift work is performed the wage rate for regular time worked is a thirty percent premium together with fringe benefits.

On Transit Authority projects, where work is performed in the vicinity of tracks all shift work on weekends and holidays may be performed at the regular shift rates.

Local #638

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**STEAMFITTER - REFRIGERATION AND AIR CONDITIONER  
(Maintenance and Installation Service Person)**

**Refrigeration and Air Conditioner Mechanic**

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate per Hour: **\$39.50**  
Supplemental Benefit Rate per Hour: **\$15.06**

**Refrigeration and Air Conditioner Service Person V**

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate per Hour: **\$32.46**  
Supplemental Benefit Rate per Hour: **\$13.53**

**Refrigeration and Air Conditioner Service Person IV**

Effective Period: 7/1/2016 - 6/30/2017

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
§220 PREVAILING WAGE SCHEDULE

Wage Rate per Hour: \$26.89  
Supplemental Benefit Rate per Hour: \$12.26

**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: 7/1/2016 - 6/30/2017  
Wage Rate per Hour: \$23.08  
Supplemental Benefit Rate per Hour: \$11.31

**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: 7/1/2016 - 6/30/2017  
Wage Rate per Hour: \$19.14  
Supplemental Benefit Rate per Hour: \$10.43

**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: 7/1/2016 - 6/30/2017  
Wage Rate per Hour: \$14.00  
Supplemental Benefit Rate per Hour: \$9.46

**Overtime**

Time and one half the regular rate after an 8 hour day.  
Time and one half the regular rate for Saturday.  
Double time the regular rate for Sunday.

**Overtime Holidays**

Double time the regular rate for work on the following holiday(s).

New Year's Day  
Independence Day  
Labor Day  
Veteran's Day  
Thanksgiving Day  
Christmas Day

Double time and one half the regular rate for work on the following holiday(s).

Martin Luther King Jr. Day  
President's Day  
Memorial Day  
Columbus Day

**Paid Holidays**

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
\$220 PREVAILING WAGE SCHEDULE

New Year's Day  
Martin Luther King Jr. Day  
President's Day  
Memorial Day  
Independence Day  
Labor Day  
Columbus Day  
Veteran's Day  
Thanksgiving Day  
Christmas Day

(Local #638B)

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## STONE MASON - SETTER

### Stone Mason - Setters

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: \$51.08

Supplemental Benefit Rate per Hour: \$38.10

### Overtime

Time and one half the regular rate after a 7 hour day.

Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

### Overtime Holidays

Double time the regular rate for work on the following holiday(s).

New Year's Day  
Washington's Birthday  
Good Friday  
Memorial Day  
Independence Day  
Labor Day  
Thanksgiving Day  
Christmas Day

### Paid Holidays

1/2 day on Christmas Eve if work is performed in the A.M.

### Shift Rates

For all work outside the regular workday (8:00 A.M. to 3:30 P.M. Monday through Friday), the pay shall be straight time plus a ten percent (10%) differential.

(Bricklayers District Council)

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## TAPER

### Drywall Taper

Effective Period: 7/1/2016 - 12/27/2016

Wage Rate per Hour: **\$47.32**

Supplemental Benefit Rate per Hour: **\$22.68**

Effective Period: 12/28/2016 - 6/30/2017

Wage Rate per Hour: **\$47.82**

Supplemental Benefit Rate per Hour: **\$22.68**

### Overtime

Time and one half the regular rate after a 7 hour day.

Time and one half the regular rate for Saturday.

Time and one half the regular rate for Sunday.

### Overtime Holidays

Time and one half the regular rate for work on the following holiday(s).

New Year's Day

Martin Luther King Jr. Day

President's Day

Good Friday

Memorial Day

Independence Day

Labor Day

Columbus Day

Thanksgiving Day

Christmas Day

### Paid Holidays

Any worker who reports to work on Christmas Eve or New Year's Eve pursuant to his employer's instruction shall be entitled to three (3) hours afternoon pay without working.

### 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)

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## TELECOMMUNICATION WORKER

(Voice Installation Only)

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
\$220 PREVAILING WAGE SCHEDULE

**Telecommunication Worker**

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: \$40.35

Supplemental Benefit Rate per Hour: \$13.19

Supplemental Note: The above rate applies for Manhattan, Bronx, Brooklyn, Queens. \$12.64 for Staten Island only.

**Overtime**

Time and one half the regular rate after a 7 hour day.

Time and one half the regular rate for Saturday.

Time and one half the regular rate for Sunday.

**Overtime Holidays**

Time and one half the regular rate for work on the following holiday(s).

New Year's Day

Lincoln's Birthday

Washington's Birthday

Memorial Day

Independence Day

Labor Day

Columbus Day

Election Day

Veteran's Day

Thanksgiving Day

Christmas Day

**Paid Holidays**

New Year's Day

Lincoln's Birthday

Washington's Birthday

Memorial Day

Independence Day

Labor Day

Columbus Day

Election Day

Veteran's Day

Thanksgiving Day

Christmas Day

Employees have the option of observing either Martin Luther King's Birthday or the day after Thanksgiving instead of Lincoln's Birthday

**Shift Rates**

For any workday that starts before 8A.M. or ends after 6P.M. there is a 10% differential for the applicable worker's hourly rate.

**Vacation**

After 6 months.....one week.

After 12 months but less than 7 years.....two weeks.

After 7 or more but less than 15 years.....three weeks.

After 15 years or more but less than 25 years.....four weeks.

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
§220 PREVAILING WAGE SCHEDULE

(C.W.A.)

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## TILE FINISHER

### Tile Finisher

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: **\$40.69**

Supplemental Benefit Rate per Hour: **\$30.58**

### 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)

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## TILE LAYER - SETTER

### Tile Layer - Setter

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
§220 PREVAILING WAGE SCHEDULE

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: \$52.68

Supplemental Benefit Rate per Hour: \$34.48

### Overtime

Time and one half the regular rate after a 7 hour day.

Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

### Overtime Holidays

Double time the regular rate for work on the following holiday(s).

New Year's Day

President's Day

Good Friday

Memorial Day

Independence Day

Labor Day

Columbus Day

Veteran's Day

Thanksgiving Day

Day after Thanksgiving

Christmas Day

### Shift Rates

Off shift work day (work performed outside the regular 8:00 A.M. to 3:30 P.M. workday): shift differential of one and one quarter (1¼) times the regular straight time rate of pay for the seven hours of actual off-shift work.

(Local #7)

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## TIMBERPERSON

### Timberperson

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: \$46.99

Supplemental Benefit Rate per Hour: \$48.26

### Overtime

Time and one half the regular rate after an 8 hour day.

Time and one half the regular rate for Saturday.

Double time the regular rate for Sunday.

Saturday may be used as a make-up day at straight time when a day is lost during that week to inclement weather.

Time and one half the regular hourly rate after 40 hours in any work week.



OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
§220 PREVAILING WAGE SCHEDULE

**Overtime Holidays**

Double time the regular rate for work on the following holiday(s).

New Year's Day  
President's Day  
Memorial Day  
Independence Day  
Labor Day  
Columbus Day  
Presidential Election Day  
Thanksgiving Day  
Christmas Day

**Paid Holidays**

None

**Shift Rates**

Off shift work commencing between 5:00 P.M. and 11:00 P.M. shall work eight and one half hours allowing for one half hour for lunch. The wage rate shall be 113% of the straight time hourly wage rate.

(Local #1536)

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**TUNNEL WORKER**

**Blasters, Mucking Machine Operators (Compressed Air Rates)**

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: \$60.97

Supplemental Benefit Rate per Hour: \$50.72

**Tunnel Workers (Compressed Air Rates)**

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: \$58.86

Supplemental Benefit Rate per Hour: \$49.03

**Top Nipper (Compressed Air Rates)**

Effective Period: 7/1/2016 - 6/30/2017

Wage Rate per Hour: \$57.78

Supplemental Benefit Rate per Hour: \$48.16

**Outside Lock Tender, Outside Gauge Tender, Muck Lock Tender (Compressed Air Rates)**

Effective Period: 7/1/2016 - 6/30/2017

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
§220 PREVAILING WAGE SCHEDULE

Wage Rate per Hour: \$56.74  
Supplemental Benefit Rate per Hour: \$47.25

**Bottom Bell & Top Bell Signal Person: Shaft Person (Compressed Air Rates)**

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate per Hour: \$56.74  
Supplemental Benefit Rate per Hour: \$47.25

**Changehouse Attendant: Powder Watchperson (Compressed Air Rates)**

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate per Hour: \$49.69  
Supplemental Benefit Rate per Hour: \$44.69

**Blasters (Free Air Rates)**

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate per Hour: \$58.19  
Supplemental Benefit Rate per Hour: \$48.68

**Tunnel Workers (Free Air Rates)**

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate per Hour: \$55.69  
Supplemental Benefit Rate per Hour: \$46.61

**All Others (Free Air Rates)**

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate per Hour: \$51.45  
Supplemental Benefit Rate per Hour: \$43.13

**Microtunneling (Free Air Rates)**

Effective Period: 7/1/2016 - 6/30/2017  
Wage Rate per Hour: \$44.55  
Supplemental Benefit Rate per Hour: \$37.29

**Overtime Description**

For Repair-Maintenance Work on Existing Equipment and Facilities - Time and one half the regular rate after a 7 hour day, or for Saturday, or for Sunday. Double time the regular rate for work on a holiday.  
For Small-Bore Micro Tunneling Machines - Time and one-half the regular rate shall be paid for all overtime.

**Overtime**

Double time the regular rate after an 8 hour day.  
Double time the regular time rate for Saturday.  
Double time the regular rate for Sunday.  
Double time the regular rate for work on the following holiday(s).

OFFICE OF THE COMPTROLLER, CITY OF NEW YORK  
§220 PREVAILING WAGE SCHEDULE

**Paid Holidays**

New Year's Day  
Lincoln's Birthday  
President's Day  
Memorial Day  
Independence Day  
Labor Day  
Columbus Day  
Election Day  
Veteran's Day  
Thanksgiving Day  
Christmas Day

(Local #147)

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**WELDER**

**TO BE PAID AT THE RATE OF THE JOURNEYPERSON IN THE TRADE  
PERFORMING THE WORK.**



NEW YORK CITY DEPARTMENT OF  
DESIGN + CONSTRUCTION

Issue Date - June 01, 2013  
Revised - January 15, 2015

**DDC STANDARD GENERAL CONDITIONS  
FOR SINGLE CONTRACT PROJECTS**





NEW YORK CITY DEPARTMENT OF  
DESIGN + CONSTRUCTION

Issue Date - June 01, 2013  
Revised - January 15, 2015

No Text



NEW YORK CITY DEPARTMENT OF  
DESIGN + CONSTRUCTION

Issue Date - June 01, 2013  
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DIVISION 01 – DDC STANDARD GENERAL CONDITIONS  
SINGLE CONTRACT PROJECTS  
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DESIGN + CONSTRUCTION

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NO TEXT



## 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.





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**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-NC 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.



- 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



- 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.



#### 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.



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- 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**



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.



- 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 Contractors 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



**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.



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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**



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.



## 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 Consultant, Contractor and others within DDC as he/she deems appropriate.



## 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



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No Text



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.



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- 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.



- 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.



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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





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No Text



**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



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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.



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:



- 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 appropriateShould 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.



**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 1.5 herein.
- C. Number of Copies: Submit FOUR (4) copies of LEED submittals, in accordance with procedure described in Article 1.5 herein, unless otherwise indicated.
- 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.



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**PART II – PRODUCTS (Not Used)**

**PART III – EXECUTION (Not Used)**

**END OF SECTION 01 33 00**



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.



- 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. See General Comments regarding problems with specifying items required for substantial completion.

**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  
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No Text



**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.



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



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.



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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- $\frac{1}{4}$  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



- 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



- 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.



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



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



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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



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No Text



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.





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#### 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.



### 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



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**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 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.



- 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.



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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





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**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 Article 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.



- 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



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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.



### 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





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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.



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### 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 adopts 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



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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)

REFERENCES  
01 42 00 -3



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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)



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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)

REFERENCES  
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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



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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

REFERENCES  
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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



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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)

REFERENCES  
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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



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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.
WASTECC	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  
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No Text

REFERENCES  
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**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 permanent facility and service during its use as a construction facility 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.



## 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.



**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 ¼ 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



- 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,



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- 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:



- 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 15<sup>th</sup> to April 15<sup>th</sup>.

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.



- 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.



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.



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- 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



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 FEILD 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.



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 Sub-Section 3.8 B 1 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.



- 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 one complete computer workstation, in quantities specified in Sub-Section 3.8.B.3, 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



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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





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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.



- 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:



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- 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.



**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



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:

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**NO TRESPASSING**  
**AUTHORIZED PERSONNEL ONLY**

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- 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



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  
DESIGN + CONSTRUCTION

Division 01 – DDC STANDARD GENERAL CONDITION  
SINGLE CONTRACT PROJECTS  
Issue Date - June 01, 2013  
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No Text



**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.



- 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 41<sup>st</sup> 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



- 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



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.



- 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  
DESIGN + CONSTRUCTION

Division 01 – DDC STANDARD GENERAL CONDITION  
SINGLE CONTRACT PROJECTS  
Issue Date - June 01, 2013  
Revised - January 15, 2015

No Text



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



#### 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.



- 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 article 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.



### 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





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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.



- 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) foot 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 DDC 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.



### 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.



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- 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 Dept. of Buildings, Bureau of Electrical Control 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

EXECUTION  
01 73 00 - 10



**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)



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](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](http://www.wastematch.org) Site of New York Waste Match, a materials exchange database and service  
[www.bignyc.org](http://www.bignyc.org) Site of Build It Green NYC, a non profit outlet for salvaged and surplus building materials  
[www.usgbc.org](http://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](http://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 Credit 2.2, 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. Statement of refrigerant recovery, signed by the 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.

#### 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. Instruction: 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.



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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



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# CONSTRUCTION AND DEMOLITION WASTE MANAGEMENT LOG

Project Name: \_\_\_\_\_ Contractor: \_\_\_\_\_  
 Project I.D.: \_\_\_\_\_ Prepared by: \_\_\_\_\_  
 For Month: \_\_\_\_\_

Haul Date	Ticket #	Hauling Company	Material Category <sup>2</sup>	Material Quantity (tons or cubic yards) <sup>1</sup>				Material Recipient
				*Total Weight	Excluded Material <sup>3</sup>	*Diverted Material <sup>4</sup>	*Landfilled Material	
Monthly Totals				*Total		*Diverted	*Landfilled	
						% Diverted this Month*		

Cumulative Totals		
% Diverted to Date		

Notes:

- Volume (cubic yards) may be used instead of weight if used for ALL amounts and ALL materials.
- 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.
- Excluded material includes soil or land clearing debris.
- 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.



**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



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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.



- 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.



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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.





- 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 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.



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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



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.



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No Text



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,



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



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.



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## 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 Consulting. 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 Consulting. 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.





## 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:



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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.



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- 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 Training 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.



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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



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## 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



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No Text



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 training 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 training, submit three (3) complete training 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 training.
- 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 training 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, 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





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.



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- 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



- 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.

#### 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.
  - 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.



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7. Transcript: Provide a typewritten transcript of the narration. Display images and running time captured from opposite the corresponding narration segment.

B. Commissioned Projects:

Refer to the Addendum to determine if the project is to be Commissioned.

1. The Commissioning Authority/Agent (CxA) under separate contract with the City of New York will assess and comment on the adequacy of the Orientation Instruction sessions by reviewing the Orientation and Instruction program and agenda provided by each contractor. The provider of the Orientation program will videotape the sessions and provide a copy to the CxA for final review and comments. If necessary, Contractor shall edit the DVD recording per CxA comments.

END OF SECTION 01 79 00

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,<br>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.



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- 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 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.



### 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 ( $1/2 \times \text{pre-consumer percentage} \times \text{product value} + 1 \times \text{post-consumer percentage} \times \text{product value} = \text{total recycled content value}$ ).
      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 (1<sup>st</sup> edition, May 1993)
  - b. Anti-corrosive and Anti-rust paints: refer to Green Seal standard GC-03 (2<sup>nd</sup> Edition, January 1997)
  - c. Aerosol Adhesives: refer to Green Seal standard GS-36 (1<sup>st</sup> 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 1980. 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 1980. 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.
  - 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 contract 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 the rejection of products or assemblies. Incomplete or inaccurate LEED BUILDING Submittals may be used as the basis for rejecting the submitted 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



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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.

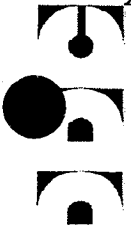
#### 1.9 QUALITY ASSURANCE:

- 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



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ENVIRONMENTAL BUILDING MATERIALS CERTIFICATION FORM

Contractor Name: \_\_\_\_\_  
Contractor Contact: \_\_\_\_\_  
Telephone Number: \_\_\_\_\_

Project Name: \_\_\_\_\_  
Project I.D.: \_\_\_\_\_

Product/Manufacturer	Recycled Content		Regional <sup>4</sup>		Rapidly Renewable <sup>7</sup>		VOC content <sup>8</sup>	Flooring <sup>9</sup>	Wood				
	Material Cost <sup>1</sup>	Pre-Consumer (% by wt) <sup>2</sup>	Post-Consumer (% by wt) <sup>3</sup>	Total % (1/2 Pre + Post)	Location & Distance to Manufacture <sup>5</sup>	Location & Distance to Extraction <sup>5</sup>				Material	% by wt	*VOC content listed	*VOC content allowed

<sup>1</sup> 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 installation.  
<sup>2</sup> Pre-Consumer Recycled Content: Industrial/manufacturing waste material (e.g., fly-ash and synthetic gypsum, both waste products from coal burning electricity plants) diverted from landfill and incorporated into a finished product. Scrap raw materials that can be reused in the same manufacturing process from which they are recovered are not considered Pre-Consumer Recycled Content.  
<sup>3</sup> 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.  
<sup>4</sup> Regional: Refers to a material/product that is BOTH extracted AND manufactured within 500 miles of the Project site. Record this information ONLY for materials/products meeting BOTH of these criteria.  
<sup>5</sup> Extraction: Refers to the location from which the raw resources used in a building product are extracted, harvested, or recovered.  
<sup>6</sup> Manufacture: Refers to the location of the final assembly of components into a building product that is furnished and installed by the Contractor.  
<sup>7</sup> Rapidly Renewable: Refers to materials/products derived from agricultural products that are typically harvested within a ten-year or shorter cycle.  
<sup>8</sup> VOC Content: The quantity of volatile organic compounds contained in adhesives, sealants, paints and architectural coatings. Reported in grams/liter or lbs/gallon, less water.  
<sup>9</sup> Flooring: For carpet, indicate Carpet and Rug Institute (CRI) Green Label Plus certification. For carpet cushion, indicate CRI Green Label certification. For all flooring except unfinished/unreated wood and mineral-based flooring (tile, masonry, terrazzo, cut stone) without organic-based coatings or sealants, indicate Resilient Floor Covering Institute FloorScore rating. VOC limits for adhesives, sealants, etc. still apply.  
<sup>10</sup> Added Urea Formaldehyde: Applies to composite wood and agfiber products only (plywood, particleboard, MDF, OSB, wheatboard, strawboard). Resins or binders with added urea formaldehyde are prohibited.  
<sup>11</sup> FSC Certified: 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: \_\_\_\_\_ (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: \_\_\_\_\_



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

- 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



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](http://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](http://www.aqmd.gov)
- C. Green Seal Standard GS-11- "Paints", of Green Seal, Inc., Washington, DC, [www.greenseal.org](http://www.greenseal.org)
- D. Green Seal Standard GC-03- "Anti-Corrosive Paints", of Green Seal, Inc., Washington, DC, [www.greenseal.org](http://www.greenseal.org)

#### 1.6 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





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



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.



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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



**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](http://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](http://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 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", First Edition, 1995.
  - 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:
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



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- 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 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:
  - a. 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.
  - b. 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.
  - c. 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.
  - d. 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.





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- a. Distribution: The Contractor shall distribute copies of the Construction IAQ Management Plan in accordance with Section 01 33 00, SUBMITTAL PROCEDURES.
- b. 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 1.07 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



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 OWNERS PRE-ACCEPTANCE ORIENTATION
  - 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.



- 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 Commissioning Agent (CxA) 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.



- 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  
Revised - January 15, 2015

#### 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  
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NO TEXT



Department of Design and Construction

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

PROJECT INFORMATION CONTRACT PERFORMANCE CORRELATION GENERAL

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: PWD99WNY1



Department of Design and Construction

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

Center for the Women of New York  
Renovation

LOCATION: 207 Totten Avenue  
BOROUGH: Queens, 11359  
CITY OF NEW YORK

SIBA Contracting Corp  
Contractor

Dated December 11, 20 17

Approved as to Form  
Certified as to Legal Authority

[Signature]  
Acting Corporation Counsel

[Signature]  
9/15/16

Dated September 15, 20 2016

Entered in the Comptroller's Office

First Assistant Bookkeeper

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





Department of  
Design and  
Construction

PROJECT ID:

PWD99WNY1

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

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**VOLUME 3 OF 3**

**ADDENDUM TO THE GENERAL  
CONDITIONS**

**SPECIFICATIONS**

FOR FURNISHING ALL LABOR AND MATERIALS  
NECESSARY AND REQUIRED FOR:

**Center for the Women of New York  
Renovation**

LOCATION:  
BOROUGH:  
CITY OF NEW YORK

207 Totten Avenue  
Queens, 11359

CONTRACT NO. 1

GENERAL CONSTRUCTION WORK

Department of Parks and Recreation

Page Avres Cowley Architects, LLC

Date: December 7, 2016





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 #: PWD99WNY1 PROJECT NAME: Center for the Women of New York Renovation

PROJECT DESCRIPTION: This Project consists of interior rehabilitation of the first floor to include fire protection, mechanical and electrical work and the installation of an ADA lift, exterior restoration of the slate roof and the repair of the entire porch.

PROJECT LOCATION: Fort Totten, Bayside BOROUGH: Queens CITY OF NEW YORK ZIP CODE: 11359 COMMUNITY BOARD #: 407 LANDMARK STATUS:

DESIGNATED LANDMARK STRUCTURE OR SITE: YES If this is a Designated Landmark Structure or Site, Section 01 3591, Historic Treatment Procedures applies to this project. LANDMARK QUALITY STRUCTURE: YES 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

This project includes Commissioning Requirements. The General Commissioning Requirements are found in Section 01 9113 of the DDC Standard General Conditions. Other specific Commissioning Requirements can be found in the Project Specification Sections.

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	

<u>Section</u>	<u>Sub-Section</u>	<u>Sub-Section</u>	<u>Applies</u>	<u>Does not Apply</u>	<u>Applies as Amended</u>
<b>01 5000</b>	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		
	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	
<b>01 5411</b>	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	
<b>01 7300</b>	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		
<b>01 7419</b>	1.5 (C)	Waste Management Performance Requirements / LEED Certification		x	
<b>01 7900</b>		Demonstration and Owner's Pre-Acceptance Orientation		x	
<b>01 8113</b>		Sustainable Design Requirements for LEED Buildings		x	
<b>01 8113.13</b>		VOC Limits for Adhesives, Sealants, Paints and Coatings for LEED Buildings		x	
<b>01 8119</b>		Indoor Air Quality Requirements for LEED Buildings		x	
<b>01 9113</b>		General Commissioning Requirements		x	

## VIII. SPECIAL EXPERIENCE REQUIREMENTS FOR THE PROJECT

- (1) **GENERAL:** Special Experience Requirements for the Project are set forth below. Such Special Experience Requirements may apply to either or both of the following entities: (a) the contractor or subcontractor that will perform specific areas of work, and/or (b) the manufacturer that will provide specific material or equipment.
- (2) **REVISION OF SPECIFICATIONS AND DRAWINGS:** In the event the Specifications and/or the Contract Drawings contain any Special Experience Requirements that are not set forth below, such Special Experience Requirements are deemed deleted, except as otherwise expressly provided in Section VIII of this Addendum.
- (3) **SPECIAL EXPERIENCE REQUIREMENTS FOR SPECIFIC AREAS OF WORK:** The Special Experience Requirements set forth below apply to the contractor or subcontractor that will perform specific areas of work. Compliance with such Special Experience Requirements will be evaluated after an award of contract. Within two (2) weeks of such award, the contractor will be required to submit the qualifications of the contractor or subcontractor that will perform these specific areas of work. If the contractor intends to perform any specific area of work with its own forces, it must demonstrate compliance with the Special Experience Requirements. If the contractor intends to subcontract any specific area of work, the proposed subcontractor(s) must demonstrate compliance with the Special Experience Requirements. Once approved, no substitution will be permitted, unless the qualifications of the proposed replacement have been approved in writing in advance by the City.

Special Experience Requirement #1: The contractor or subcontractor performing the work of this section must, within the last five (5) consecutive years prior to the bid opening, have successfully completed in a timely fashion at least three (3) projects similar in scope and type to the required work, based on architectural style, construction method and materials and age of building for this particular project. One such prior project of the three must have involved a landmarked building, as officially designated by the City, State or federal government.

Special Experience Requirement #2: Additionally, for Section 073150, the contractor or subcontractor performing the work of these sections must be a company regularly engaged in performing roofing projects with its own workforce and have successfully completed in a timely fashion at least three (3) roofing projects similar in scope, size and type to the required work within the last three (3) consecutive years prior to the bid opening. At least one of those projects must have been performed within the last twelve (12) months. The three (3) qualifying projects must have utilized one or more of the roofing systems specified for the project being bid herein, been installed by the contractor's or subcontractor's company utilizing its own workforce and must have qualified for, and have been issued, the warranty provided by the manufacturer of the roofing system. In addition, the contractor or subcontractor must be a certified or authorized installer for at least one of the manufacturer's roofing systems specified herein and shall submit proof of same.

General Construction:

- Section 061053: Rough Carpentry and Finish Carpentry
- Section 073150: Slate Shingle Roofing
- Section 082120: Stile and Rail Wood Doors
- Section 085200: Wood Windows



## 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)**

**PART I - 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 the contract.

<b>REFERENCE</b>	<b>ITEM</b>	<b>REQUIREMENTS</b>	<b>CONTRACT #1</b>
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	<b>365</b>
Article 15 Contract	Liquidated Damages	For each consecutive calendar day over completion time	<b>\$400</b>
Article 17 Contract	Sub-Contracts	Not to exceed Percent of Contract Price	<b>60%</b>
Article 21 Contract	Retainage	Percent of Voucher	If 100% bonds are required <b>5%</b> If 100% bonds are not required, and Contract Price is \$1,000,000 or less <b>5%</b> If 100% bonds are not required, and Contract Price is more than \$1,000,000 <b>10%</b>
Article 24 Contract	Deposit Guarantee	Percent of Contract Price	<b>1%</b>
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
<p>■ Commercial General Liability      Art. 22.1.1</p>	<p>The minimum limits shall be \$1,000,000.00 per occurrence and \$2,000,000.00 per project aggregate applicable to this <b>Contract</b>.</p> <p>Additional Insureds:</p> <p>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, and</p> <p>2. All person(s) or organization(s), if any, that Article 22.1.1(b) of the <b>Contract</b> requires to be named as Additional Insured(s), with coverage at least as broad as ISO Form CG 20 26. The Additional Insured endorsement shall either specify the entity's name, if known, or the entity's title (e.g., Project Manager).</p> <p>3. _____</p>
<p>■ Workers' Compensation              Art. 22.1.2</p> <p>■ Disability Benefits Insurance        Art. 22.1.2</p> <p>■ Employers' Liability                    Art. 22.1.2</p> <p><input type="checkbox"/> Jones Act                                    Art. 22.1.3</p> <p><input type="checkbox"/> U.S. Longshoremen's and Harbor Workers Compensation Act      Art. 22.1.3</p>	<p>Workers' Compensation, Employers' Liability, and Disability Benefits Insurance: Statutory per New York State law without regard to jurisdiction.</p> <p><b>Note:</b> The following forms are acceptable: (1) New York State Workers' Compensation Board Form No. C-105.2, (2) State Insurance Fund Form No. U-26.3, (3) New York State Workers' Compensation Board Form No. DB-120.1 and (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
<input checked="" type="checkbox"/> Builders' Risk <span style="float:right">Art. 22.1.4</span>	100 % of total value of <b>Work</b>  <b>Contractor</b> the Named Insured; the <b>City</b> both an Additional Insured and one of the loss payees as its interests may appear.  If the <b>Work</b> does not involve construction of a new building or gut renovation work, the <b>Contractor</b> may provide an installation floater in lieu of Builders Risk insurance.  Note: Builders Risk Insurance may terminate upon <b>Substantial Completion</b> of the <b>Work</b> in its entirety.
<input checked="" type="checkbox"/> Commercial Auto Liability <span style="float:right">Art. 22.1.5</span>	\$1,000,000.00 per accident combined single limit  If vehicles are used for transporting hazardous materials, the <b>Contractor</b> shall provide pollution liability broadened coverage for covered vehicles (endorsement CA 99 48) as well as proof of MCS 90
<input type="checkbox"/> Contractor's Pollution Liability <span style="float:right">Art. 22.1.6</span>	\$ _____ per occurrence  \$ _____ aggregate  Additional Insureds: 1. City of New York, including its officials and employees, and 2. _____ 3. _____
<input type="checkbox"/> Marine Protection and Indemnity <span style="float:right">Art. 22.1.7(a)</span>	\$ _____ per occurrence  \$ _____ aggregate  Additional Insureds: 1. City of New York, including its officials and employees, and 2. _____ 3. _____

**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
[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. _____

**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.

<p>[OTHER] <span style="float: right;">Art. 22.1.8</span></p> <p><input type="checkbox"/> Asbestos Liability _____</p>	<p>Only required of the Contractor or Subcontractor performing any required asbestos removal.</p> <p>\$1,000,000 each occurrence, \$2,000,000 aggregate (Combined Single Limit); only required of the Contractor or Subcontractor performing any required asbestos removal.</p> <p>Additional Insureds: 1. City of New York, including its officials and employees, and 2. _____ 3. _____</p>
<p>[OTHER] <span style="float: right;">Art. 22.1.8</span></p> <p>■ Boiler Insurance _____</p>	<p>\$200,000</p>
<p>[OTHER] <span style="float: right;">Art. 22.1.8</span></p> <p>■ Professional Liability</p> <p>In the event any section of the Specifications requires the Contractor to engage a Professional Engineer to provide design and/or engineering services, the Engineer engaged by the Contractor, as well as any sub consultant(s) performing professional services, shall provide Professional Liability Insurance.</p>	<p>\$1,000,000 per occurrence</p> <p>The Contractor's Professional Engineer shall maintain and submit evidence of Professional Liability Insurance in the minimum amount of \$1,000,000 per claim. The policy or policies shall include an endorsement to cover the liability assumed by the Contractor under this Agreement arising out of the negligent performance of professional services or caused by an error, omission or negligent act of the Contractor's Professional Engineer or anyone employed by the Contractor's Professional Engineer.</p> <p>Claims-made policies will be accepted for Professional Liability Insurance. All such policies shall have an extended reporting period option or automatic coverage of not less than two (2) years. If available as an option, the Contractor's Professional Engineer shall purchase extended reporting period coverage effective on cancellation or termination of such insurance unless a new policy is secured with a retroactive date, including at least the last policy year.</p>

**SCHEDULE A (FOR PUBLICLY BID PROJECTS)**

**Relating to Article 22 - Insurance**

**PART III. Certificates of Insurance**

All certificates of insurance (except certificates of insurance solely evidencing Workers' Compensation Insurance, Employer's Liability Insurance, and/or Disability Benefits Insurance) must be accompanied by one of the following:

- (1) the Certification by Insurance Broker or Agent on the following page setting forth the required information and signatures;

-- OR --

- (2) copies of all policies as certified by an authorized representative of the issuing insurance carrier that are referenced in such certificate of insurance. If any policy is not available at the time of submission, certified binders may be submitted until such time as the policy is available, at which time a certified copy of the policy shall be submitted.



**SCHEDULE A (FOR PUBLICLY BID PROJECTS)**

**Relating to Article 22 - Insurance**

**PART III. Certification by Insurance Broker or Agent**

The undersigned insurance broker or agent represents to the City of New York that the attached Certificate of Insurance is accurate in all material respects.

\_\_\_\_\_  
[Name of broker or agent (typewritten)]

\_\_\_\_\_  
[Address of broker or agent (typewritten)]

\_\_\_\_\_  
[Email address of broker or agent (typewritten)]

\_\_\_\_\_  
[Phone number/Fax number of broker or agent (typewritten)]

\_\_\_\_\_  
[Signature of authorized official or broker or agent]

\_\_\_\_\_  
[Name and title of authorized official, broker or agent (typewritten)]

State of .....)  
                                ) ss:  
County of .....)

Sworn to before me this  
\_\_\_\_\_ day of \_\_\_\_\_, 20\_\_

\_\_\_\_\_  
NOTARY PUBLIC FOR THE STATE OF \_\_\_\_\_

**SCHEDULE A (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

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30-30 Thomson Avenue, 4<sup>th</sup> Floor

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Long Island City, New York 11101

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**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.

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**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 (years)
071353	Sheet Membrane Waterproofing	5
073150	Slate Shingles	10
076200	Sheet Metal Flashing-Trim	10
078410	Penetration Firestopping	5
081433	Stile and Rail Wood Doors	1
085200	Wood Windows	5
087110	Door Hardware	1
092900	Gypsum Board Assemblies	5
093000	Tiling	1
096400	Wood Flooring	1
099123	Exterior Painting	1
104416	Fire Extinguishers	6
144250	Vertical Wheelchair Lifts	1
211313	Automatic Sprinkler System	3
220514	Motors and Controls	1
221300	Sanitary and Water Drainage System	3

Specification Number	Material or Equipment	Warranty Period (years)
223000	Plumbing Equipment, Specialties, & Acc.	1
224000	Plumbing Fixtures	1
230700	HVAC Insulation	1
230900	Instrumentation & Controls- HVAC	3
232113	Piping and Accessories	1
233113	Metal Ducts	1
236450	Equipment	1
283111	Fire Alarm	1

(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.

#### ARCHITECTURAL

G-001.00	TITLE SHEET, PLOT/SITE PLAN, DRAWING LIST, DEFINITIONS
G-002.00	GENERAL & BUILDING DEPARTMENT NOTES
G-003.00	LOCAL LAW 58/87 & ADA ACCESSIBILITY DIAGRAMS
G-100.00	EGRESS & OCCUPANCY: CELLAR & FIRST FLOOR PLAN
DM-100.00	DEMOLITION PLANS: CELLAR
DM-101.00	DEMOLITION PLANS: FIRST FLOOR
DM-102.00	DEMOLITION PLANS: SECOND FLOOR
DM-103.00	DEMOLITION PLANS: ATTIC
DM-104.00	DEMOLITION PLANS: ROOF
DM-200.00	DEMOLITION NORTH & EAST ELEVATIONS
DM-201.00	DEMOLITION SOUTH & WEST ELEVATIONS
A-100.00	PROPOSED PLANS: CELLAR
A-101.00	PROPOSED PLANS: FIRST FLOOR
A-102.00	PROPOSED PLANS: SECOND FLOOR
A-103.00	PROPOSED PLANS: ATTIC
A-200.00	PROPOSED ELEVATIONS: NORTH ELEVATION
A-201.00	PROPOSED ELEVATIONS: EAST ELEVATION
A-202.00	PROPOSED ELEVATIONS: SOUTH ELEVATION
A-203.00	PROPOSED ELEVATIONS: WEST ELEVATION
A-400.00	PARTIAL PLANS & INTERIOR ELEVATIONS: CELLAR FLOOR
A-401.00	PARTIAL PLANS & INTERIOR ELEVATIONS: CELLAR FLOOR
A-402.00	PARTIAL PLANS & INTERIOR ELEVATIONS: FIRST FLOOR
A-403.00	PARTIAL PLANS & INTERIOR ELEVATIONS: FIRST FLOOR
A-404.00	PARTIAL PLANS & INTERIOR ELEVATIONS: SECOND FLOOR
A-405.00	PARTIAL PLANS & INTERIOR ELEVATIONS: SECOND FLOOR
A-500.00	RAMP AND LIFT DETAILS
A-501.00	FIRST FLOOR FRAMING DETAILS
A-502.00	STAIRS DETAILS
A-600.00	WALL TYPES
A-700.00	WINDOW SCHEDULE & WINDOW DETAILS
A-701.00	DOOR SCHEDULE
A-702.00	DOOR TYPES & DOOR DETAILS
A-703.00	PLUMBING FIXTURE SCHEDULE & ACCESSORY SCHEDULE
A-704.00	PLUMBING FIXTURE SCHEDULE & ACCESSORY SCHEDULE
A-705.00	FINISHES SCHEDULE
A-800.00	PROPOSE REFLECTED CEILING PLANS: CELLAR
A-801.00	PROPOSE REFLECTED CEILING PLANS: FIRST FLOOR
A-802.00	PROPOSE REFLECTED CEILING PLANS: SECOND FLOOR
A-803.00	PROPOSE REFLECTED CEILING PLANS: ATTIC FLOOR
A-900.00	PROPOSE POWER AND DATA PLANS: CELLAR FL
A-901.00	PROPOSE POWER AND DATA PLANS: FIRST FL
A-902.00	PROPOSE POWER AND DATA PLANS: SECOND & ATTIC FLS
L-100.00	TREE PROTECTION PLAN

#### MECHANICAL

M-001.00	MECHANICAL NOTES, SYMBOLS AND DRAWING LIST
M-100.00	MECHANICAL CELLAR FLOOR PLAN
M-101.00	MECHANICAL FIRST FLOOR PLAN
M-102.00	MECHANICAL SECOND FLOOR PLAN
M-103.00	MECHANICAL ATTIC FLOOR PLAN
M-200.00	MECHANICAL DETAILS
M-300.00	MECHANICAL SCHEDULES

PLUMBING

P-001.00 PLUMBING SYMBOLS LIST, NOTES AND SITE PLAN  
P-100.00 PLUMBING CELLAR FLOOR PLAN  
P-101.00 PLUMBING FIRST, SECOND & ATTIC FLOOR PLANS  
P-200.00 PLUMBING RISER DIAGRAMS  
P-300.00 PLUMBING DETAILS

SPRINKLER

SP-001.00 FIRE PROTECTION SYMBOL LIST, NOTES AND SITE PLAN  
SP-100.00 SPRINKLER CELLAR REFLECTED CEILING PLAN  
SP-101.00 SPRINKLER FIRST REFLECTED CEILING PLAN  
SP-102.00 SPRINKLER SECOND REFLECTED CEILING PLAN  
SP-103.00 SPRINKLER ATTIC REFLECTED CEILING PLAN  
SP-300.00 FIRE PROTECTION DETAILS

ELECTRICAL

E-001.00 ELECTRICAL SYMBOL LIST, ABBREVIATIONS AND DETAILS  
E-002.00 ELECTRICAL SINGLE LINE DIAGRAM & PANEL SCHEDULES  
E-100.00 ELECTRICAL CELLAR FLOOR POWER PLAN  
E-101.00 ELECTRICAL FIRST FLOOR POWER PLAN  
E-102.00 ELECTRICAL SECOND & ATTIC FLOOR POWER PLAN  
E-200.00 CELLAR REFLECTED CEILING PLAN  
E-201.00 FIRST FLOOR REFLECTED CEILING PLAN  
E-202.00 SECOND FLOOR & ATTIC REFLECTED CEILING PLAN

FIRE ALARM

FA-001.00 FIRE ALARM SYSTEM SYMBOL LIST, NOTES,  
FA-002.00 FIRE ALARM SEQUENCE OF OPERATION  
FA-100.00 FIRE ALARM CELLAR FLOOR PLAN  
FA-101.00 FIRE ALARM FIRST FLOOR PLAN  
FA-102.00 FIRE ALARM SECOND FLOOR AND ATTIC PLAN  
FA-103.00 ATTIC FLOOR FIRE ALARM PLAN

**SCHEDULE D**

**Electrical Motor Control Equipment**

**(Reference: 01 3506, Article 3.8 of the DDC Standard General Conditions)**

Requirements for electrical motor equipment may be included in one or more sections of the Specifications for the Contract for the Project. Schedule D set forth below delineates specific information for electrical motor control equipment. In the event of any conflict between the Specifications and this Schedule D, Schedule D shall take precedence; provided, however, in the event of an omission from Schedule D (i.e., Schedule D omits either a reference to or information concerning electrical motor equipment which is set forth in the Specifications), such omission from Schedule D shall have no effect and the Contractor's obligation with respect to the electrical motor control equipment, as set forth in the Specifications, shall remain in full force and effect.

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<b>DB</b> Disconnect Circuit Breaker (Switch)	<b>P</b> Pilot Light	<b>BG</b> Break Glass Station
<b>TS</b> Thermal Switch	<b>F</b> Firestat	<b>HOA</b> Hand-Off Auto.
<b>MS</b> Magnetic Starter	<b>T</b> Thermostat	<b>PB</b> Push Button Station
<b>CMS</b> Comb. Mag. Starter	<b>AL</b> Alternator	<b>RO</b> Remote "off"

Equip. Ident.	Location	# of Units	HP or KW	Volts and Phase	Control Type: See legend above	Remarks:
SBP	Cellar	1	15 HP	208V-3HP	HOA	
JP	Cellar	1	1 HP	208V-3HP	HOA	
P-1,2	Cellar	2	2 HP	208V-3HP	HOA	

**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:  
 TELEPHONE NUMBER:  
 DDC PROJECT MANAGER:  
 TELEPHONE NUMBER:

DATE: \_\_\_\_\_

APPROVED: \_\_\_\_\_  
 (DDC RESIDENT ENGINEER/CPM)

REPORT DATE		FMS ID #/PROJECT ID #: CONTRACT REGISTRATION #: PROJECT NAME:			Contract 1 – GENERAL CONSTRUCTION																					
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																								

01 5423	Site Logistics/Site Safety Plan	x																								
01 5423	Scaffold & Shed Installation Drawings		x																							
02 4119	Selective Demolition	x																								
03 3000	Cast-in-Place Concrete	x																								
06 1050	Misc. Rough Carpentry	x																								
06 1053	Rough & Finish Carpentry	x	x																							
07 1353	Sheet membrane waterproofing	x	x																							
07 3150	Slate Shingles	x	x																							
07 6200	Metal Flashing	x	x																							
07 8410	Penetration Firestopping	x	x																							
08 1433	Wood Doors	x	x																							
08 5200	Wood Windows/Glass	x	x																							
08 7110	Door Hardware	x	x																							
09 2900	Gypsum Board Assemblies	x																								
09 3000	Tiling		x																							
09 6400	Wood Flooring	x																								
09 9123	Exterior Painting	x																								
10 4416	Fire Extinguishers	x																								
14 4250	Vertical Wheelchair Lifts	x	x																							



26 0533	Empty Conduit	x	x	x																
26 2400	120-208V Service	x	x	x	x															
26 2416	Distribution	x	x	x	x															
26 2923	Electrical Power Equip.	x																		
28 3111	Fire Alarm System	x	x	x	x															

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**CONTRACT # 1**  
**GENERAL CONSTRUCTION WORK**

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## SECTION 024119

### SELECTIVE DEMOLITION

#### PART 1 - GENERAL

##### 1.1 GENERAL REQUIREMENTS

- A. Work of this Section, as shown or specified, shall be in accordance with the requirements of the Contract Documents.
- B. 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. Section Includes:
  - 1. Demolition and removal of selected portions of building.
  - 2. Demolition and removal of selected site elements.
  - 3. Salvage of existing items to be reused or recycled.

##### 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 Commissioner ready for reuse, conservation, replication or repair in a later phase.
- 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 COMMISSIONERSHIP

- 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 Commissioner that may be uncovered during demolition remain the property of Commissioner.
  - 1. Carefully salvage in a manner to prevent damage and promptly return to the Commissioner.

#### 1.5 PREINSTALLATION MEETINGS

- A. Pre-demolition Conference: Conduct conference at the Project site.
  - 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. Proposed Protection Measures: Submit report, including drawings, that indicates the measures proposed for protecting individuals and property, for environmental protection, for dust control and, for noise control. Indicate proposed locations and construction of barriers.
- B. 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.
  - 2. Interruption of utility services. Indicate how long utility services will be interrupted.
  - 3. Coordination for shutoff, capping, and continuation of utility services.
- C. Inventory: Submit a list of items to be removed and salvaged and deliver to Commissioner prior to start of demolition.
- D. Pre-demolition Photographs: Submit before Work begins.

#### 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 FIELD CONDITIONS

- A. Notify Commissioner of discrepancies between existing conditions and Drawings before proceeding with selective demolition.
- B. Hazardous Materials: It is not expected that hazardous materials will be encountered in the Work.
  - 1. Hazardous materials at locations where work is to take place will be removed before start of the Work.
  - 2. If suspected hazardous materials are encountered, do not disturb; immediately notify Commissioner.
  - 3. Refer to Section 028013 for further information.
- C. Historic Areas: Demolition and hauling equipment and other materials shall be of sizes that clear surfaces within historic spaces, areas, rooms, and openings, including temporary protection, by 12 inches (300 mm) or more.
- D. Storage or sale of removed items or materials on-site is not permitted.
- E. 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 Commissioner. Commissioner 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. Engage a professional engineer to perform an engineering survey of condition of building to determine whether removing any element might result in structural deficiency or unplanned collapse of any portion of structure or adjacent structures during selective building demolition operations.
  - 1. Perform surveys as the Work progresses to detect hazards resulting from selective demolition activities.

### 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 the DDC General Conditions.
- 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. Commissioner will arrange to shut off indicated services/systems when requested by Contractor.
  - 2. Arrange to shut off indicated utilities with utility companies.
  - 3. 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.
  - 4. 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 Commissioner.
  - 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 the DDC General Conditions.
- 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. Comply with requirements for temporary enclosures, dust control, heating, and cooling specified in the DDC General Conditions.
- 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 fire watch and 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. Comply with requirements in the DDC General Conditions.
- B. Work in Historic Areas: Selective demolition may be performed only in areas of the Project that are not designated as historic. In historic spaces, areas, and rooms or on historic surfaces, the terms "demolish" or "remove" shall mean historic "removal" or "dismantling" as specified in the DDC General Conditions.
- C. Reuse of Building Elements: Do not demolish building elements beyond what is indicated on Drawings without Commissioner's approval.
- D. Removed and Salvaged Items:
1. Clean salvaged items.
  2. Pack or crate items after cleaning. Identify contents of containers.
  3. Store items in a secure area until delivery to Commissioner.
  4. Transport items to Commissioner's storage area to be determined.
  5. Protect items from damage during transport and storage.
- E. Removed and Reinstalled Items:



1. Clean and repair items to functional condition adequate for intended reuse.
2. Pack or crate items after cleaning and repairing. Identify contents of containers.
3. Protect items from damage during transport and storage.
4. Reinstall items in locations indicated. Comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make item functional for use indicated.

- F. 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. Concrete: Demolish in small sections. Using power-driven saw, cut concrete to a depth of at least 3/4 inch (19 mm) at junctures with construction to remain. Dislodge concrete from reinforcement at perimeter of areas being demolished, cut reinforcement, and then remove remainder of concrete. Neatly trim openings to dimensions indicated.
- B. Concrete: Demolish in sections. Cut concrete full depth at junctures with construction to remain and at regular intervals using power-driven saw, then remove concrete between saw cuts.
- C. Masonry: Demolish in small sections. Cut masonry at junctures with construction to remain, using power-driven saw, then remove masonry between saw cuts.
- D. Concrete Slabs-on-Grade: Saw-cut perimeter of area to be demolished, then break up and remove.
- E. Roofing: Remove no more existing roofing than what can be covered and protected in one day so that building interior remains watertight and weathertight.
1. Remove existing roof membrane, flashings, copings, and roof accessories.
  2. Remove existing roofing system down to substrate.

### 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 Commissioner'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 the DDC General Conditions.



- B. Burning: Do not burn demolished materials.
- C. Disposal: Transport demolished materials off Commissioner'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. Existing to Be Removed: See Drawings.
- B. Existing Items to Be Removed and Salvaged: See Drawings.
- C. Existing Items to Remain: See 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 **\$30,000.00** 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 I 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 (cumingtonite-grunerite), crocidolite (riebeckite), tremolite, anthrophyllite and actinolite.

GENERAL CONTRACTOR WORK ALLOWANCE FOR INCIDENTAL ASBESTOS ABATEMENT

- 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 I 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

GENERAL CONTRACTOR WORK ALLOWANCE FOR INCIDENTAL ASBESTOS ABATEMENT

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.

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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

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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 1.08, multiplied by the unit price in Section 1.04.

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.



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- 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

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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.

**END OF SECTION**



## SECTION 033000

### CAST-IN-PLACE CONCRETE

#### PART 1 - 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. Refer to other Divisions of these Specifications to determine the type and extent of work therein affecting the work of this trade, whether or not such work is specifically mentioned in this Section.

##### 1.2 SUMMARY

- A. Except for that specifically excluded below, furnish and combine materials for all the work indicated on the Drawings or herein specified to be of plain or reinforced concrete, its installation with forms and reinforcement, its curing and finishing. Shop drawings, tools, ways, apparatus, and equipment necessary for concrete production, installation, and finish are included. The work under this Section includes, but is not limited to, the following:
1. Mat slab at ADA lift.
  2. Spread footings.
  3. All other items of concrete and related work shown on the Drawings, specified herein, or needed to make the work of this Section complete.
- B. The following are excluded from the work specified in this Section:
1. Furnishing of certain metal inserts and other embedded items, installed under this Section, but supplied by other trades.
- C. Notify all other trades responsible for installing inserts when ready for such installation and for final checking immediately before concrete is placed. Cooperate with such trades to obtain proper installation.





### 1.3 REFERENCED STANDARDS

- A. Follow the guidelines contained in the latest editions of the following codes, specifications, and standards, including references contained in each document, except where more-stringent requirements are shown or specified.
- B. American Association of State Highway and Transportation Officials (AASHTO)
  - 1. AASHTO T260 – Methods of Sampling and Testing for Total Chloride Ion in Concrete and Concrete Raw Materials.
- C. American Concrete Institute (ACI)
  - 1. ACI 211.1 – Recommended Practice for Selecting Proportions for Normal Weight Concrete.
  - 2. ACI 214 – Recommendation for Evaluation of Compression Test Results of Field Concrete.
  - 3. ACI 301 – Standard Specification for Structural Concrete.
  - 4. ACI 302 – Guide for Concrete Floor and Slab Construction.
  - 5. ACI 304 – Recommended Practice for Measuring, Mixing and Placing Concrete.
  - 6. ACI 305 – Recommended Practice for Hot Weather Concreting.
  - 7. ACI 306 – Recommended Practice for Cold Weather Concreting.
  - 8. ACI 306.1 – Standard Specification for Cold Weather Concreting.
  - 9. ACI 308 – Recommended Practice for Curing Concrete.
  - 10. ACI 309 – Recommended Practice for Consolidation of Concrete.
  - 11. ACI 311 – Recommended Practice for Concrete Inspection.
  - 12. ACI 315 – Manual of Standard Practice for Detailing Reinforced Concrete Structures.
  - 13. ACI 318 – Building Code Requirements for Reinforced Concrete.
  - 14. ACI 347 – Guide to Formwork for Concrete.
  - 15. ACI 613 – Recommended Practice for Selecting Proportions for Concrete.
- D. American Society for Testing and Materials (ASTM)
  - 1. ASTM C31 – Standard Practice for Making and Curing Concrete Test Specimens in the Field.
  - 2. ASTM C33 – Standard Specification for Concrete Aggregates.
  - 3. ASTM C39 – Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens.
  - 4. ASTM C94 – Standard Specification for Ready-Mixed Concrete.
  - 5. ASTM C143 – Standard Method of Test for Slump of Hydraulic-Cement Concrete.
  - 6. ASTM C150 – Standard Specification for Portland Cement.
  - 7. ASTM C173 – Standard Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method.
  - 8. ASTM C192 – Standard Practice for Making and Curing Concrete Compression and Flexure Test Specimens in the Laboratory.
  - 9. ASTM C231 – Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method.
  - 10. ASTM C260 – Standard Specification for Air-Entraining Admixtures for Concrete.



11. ASTM C309 – Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete.
12. ASTM C494 – Standard Specification for Chemical Admixtures of Concrete.
13. ASTM C595 – Standard Specification for Blended Hydraulic Cements.
14. ASTM E329 – Standard Specification for Agencies Engaged in Construction Inspection, Testing, or Special Inspection.

E. National Ready Mixed Concrete Association (NRMCA)

1. NRMCA Check List for Certification of Ready Mixed Concrete Production Facilities.

1.4 SUBMITTALS

A. General

1. All submissions shall be in accordance with the submission schedule, which shall be developed and agreed by the Commissioner at the commencement of the Project.
2. Submittals shall be made in compliance with the DDC General Conditions.
3. Review of submittals is of a general nature only, and the responsibility for conformance with intent of Drawings shall remain with the Contractor. Review does not imply or state that the fabricator has correctly interpreted the construction documents.

B. Submit the following action submittals for review and approval:

1. Concrete mix design for each type of concrete. The Contractor shall warrant by the submission of the design mixes that such mixes are totally representative of the concrete that it intends to supply to meet the requirements of the Contract Documents. Submit new design mixes for review and approval when any change in materials is required or needed. Include the following information for each concrete mix design:
  - a. Method used to determine the proposed mix design.
  - b. Compressive Strength at Seven and Twenty-Eight Days: Submit strength test records, mix design materials, conditions, and proportions for concrete used for record of tests, standard deviation calculation, and determination of required average compressive strength.
  - c. Gradation of Fine and Coarse Aggregates: Testing data confirming proposed coarse aggregate meets ASTM C33 class designation. Include ASTM test results for aggregates subject to freeze-thaw environment.
  - d. Proportions of all ingredients including all admixtures to be added either at the time of batching or at the job site.
  - e. Water cement ratio.
  - f. Slump tested in accordance with ASTM C143.
  - g. Air content of freshly mixed concrete by the pressure method, ASTM C231, or the volumetric method, ASTM C173.
  - h. Unit weight of concrete ASTM C138.
  - i. Mill test reports of fly ash chemical and physical analysis and certification of compliance with ASTM C618, Class C or F, if used.



- j. Manufacturer's Spec Data Sheets of each concrete admixture, including brand name, manufacturer, and dosage rate range.
  2. Shop drawings for reinforcement detailing, fabricating, bending, and placing concrete reinforcement. Comply with ACI 315 - Manual of Standard Practice for Detailing Reinforced Concrete Structures showing bar schedules, stirrup spacing, bent bar diagrams, and arrangement of concrete reinforcement. Include special reinforcing required for openings through concrete structures.
  3. Product Data for proprietary materials and items, including reinforcement and forming accessories, admixtures, patching compounds, curing compounds, and others if requested by the Commissioner.
  4. Proposed methods for curing Cast-in-Place concrete.
- C. Submit the following informational submittals for record:
1. Material Safety Data Sheets for each concrete admixture.
  2. Proposed Schedule of Concrete Placement. Contractor shall keep a permanent log of the dates and times of concrete placement and where on the Project the concrete was cast. This log shall be made available to the Commissioner for inspection, upon request.
  3. Qualifications of Concrete Foreman showing 5-yrs experience with this type of concrete installation.
  4. Tickets for each batch of concrete delivered to the jobsite containing the following information:
    - a. The compressive strength of the concrete being delivered.
    - b. The volume of concrete in the delivery truck.
    - c. The time the concrete was batched (i.e., the time that water was discharged into the delivery truck to mix with the cement and aggregates).
    - d. List of admixtures.
    - e. Slump of concrete as placed.
    - f. Volume of water added to the delivery truck after initial batching.
    - g. Location where the concrete is being placed (e.g., foundation walls along Grid Line A, between Grids 1 and 4).

## 1.5 QUALITY ASSURANCE

- A. Foreman's Qualifications: Concrete work shall be done under the supervision of an experienced concrete foreman having foreman experience with "Cast-in-Place" concrete, similar to that used on this Project.
- B. The Contractor shall perform all work in strict accordance with all applicable laws and regulations of the building code and with all other authorities having jurisdiction. All such requirements shall take precedence over the requirements of the Specifications except in cases where the requirements of the Specifications are more exacting or stringent.
- C. Concrete Mix Design: The Contractor shall employ an independent testing laboratory, acceptable to the City of New York, to perform material evaluation tests and to design concrete



mixes or, when acceptable to the Commissioner, provide copies of recently made material tests and mix designs.

1. If, at any time during construction, the concrete resulting from the approved mix design deviates from Specification requirements, the Contractor shall have its laboratory modify the design, subject to approval, until the specified concrete is obtained.
- D. Testing of materials and inspections of installed work shall be completed throughout the duration of the Project, as directed by the Commissioner. Contractor shall provide free and safe access to material stockpiles and facilities for inspectors.
1. Retesting of rejected materials or reinspection of deficient work, shall be done at the Contractor's expense.
- E. The Contractor is responsible for correction of concrete work that does not conform to the specified requirements, including strength, mix proportions, air void system, tolerances, and finishes. Correct deficient concrete as directed by the Commissioner.
- F. All finishing crewmembers shall be ACI Certified Concrete Flatwork Technicians and Finishers. The supervisor shall be an ACI Certified Flatwork Technician and shall have input to the crew's placement and finishing procedures regarding the application of ACI Standards for quality flatwork. The ACI Standards that shall be observed are contained in the ACI – Concrete Craftsman Series.
- G. The Commissioner will reject Cast-in-Place Concrete that exhibits the following defects:
1. **Bulging:** Concrete surfaces that bulge due to insufficiently secured formwork, undersized ties, or flat bar clamps.
  2. **Wavy Concrete:** Concrete surfaces that exhibit waves along plywood joints due to moisture migration into unsealed cuts of plywood sheets causing swellings.
  3. **Spalling:** Concrete spalling due to shale, alkali reactivity, rusting steel too close to the surface, carbonation, improper removal of formwork, expansion of cast-in steel during the welding process, or other reasons.
  4. **Cracking and Cracking:** Concrete cracking and crazing due to lack of control joints or high water/cement ratio above 0.50.
  5. **Air Holes:** Air holes resulting from improper vibration and excessive heights of individual layers of pours between vibrations. Air holes due to spreading of concrete with vibrators rather than moving buckets or hoses.
  6. **Honeycombing:** Concrete honeycombing including loss of fines from leaking formwork or other causes.
  7. **Discoloration:** Concrete discoloration caused by any reason, including inconsistent concrete mix, different sources of cement and aggregates, temperature variation between individual pour and curing phases, improper and inconsistent use of vibrators, variation of time span of concrete in formwork, form oils, and migration of plasticizer into concrete from exposed sealant beads on formwork and around cast-in items such as electrical outlet boxes.
  8. **Visible Pour Joints:** Visible pour joints in concrete resulting from leaking formwork due to lack of gaskets and insufficient overlap with old concrete preventing proper tightening



- of formwork. Placement of concrete layers in excessive heights and spreading concrete with vibrator.
9. Debris in Concrete: Concrete that includes debris, whether caused by insufficient cleaning of formwork or lack of cleanout and access doors at base of formwork.
- H. The Contractor shall schedule a Concrete Preconstruction Meeting at least thirty days prior to placement of any concrete. Attendance at the meeting shall include the Construction Manager, Ready Mix Supplier, Concrete Pumping Subcontractor, Field Testing Laboratory, and the Engineer of Record (EOR). The agenda of the meeting shall be prepared by the Contractor and shall include, but not be limited to, the following:
1. Review of concrete mix designs.
  2. Field testing and quality control.
  3. Concrete placing sequence and schedule.
  4. Formwork, shoring, reshoring, and stripping.
  5. Placing, jointing, and finishing procedures.
  6. Curing and protection procedures.
- I. Obtain each type or class of cementitious material of the same brand from the same manufacturer's plant, obtain aggregate from one source, and obtain admixtures through one source from a single manufacturer.
1. ACI 301 - Specification for Structural Concrete, Sections 1 through 5 and Section 7, "Lightweight Concrete."
  2. ACI 117 - Specifications for Tolerances for Concrete Construction and Materials.
- J. Concrete Testing Service: The City of New York shall engage a qualified independent testing agency to perform material evaluation tests and to design concrete mixtures.
- K. Conduct a preinstallation conference at Project site to comply with requirements in the DDC General Conditions.
1. Before submitting design mixtures, review concrete design mixture and examine procedures for ensuring quality of concrete materials. Require representatives of each entity directly concerned with cast-in-place concrete to attend, including the following:
    - a. Contractor's superintendent.
    - b. Independent testing agency responsible for concrete design mixtures.
    - c. Ready-mix concrete manufacturer.
    - d. Concrete subcontractor.
  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.



## 1.6 DELIVERY, STORAGE, AND HANDLING

- A. Steel Reinforcement: Deliver, store, and handle steel reinforcement to prevent bending and damage.

## PART 2 - PRODUCTS

### 2.1 STEEL REINFORCEMENT

- A. Reinforcing Bars: ASTM A615/A 615M, Grade 60, deformed.
- B. Deformed-Steel Welded Wire Reinforcement: ASTM A497, flat sheet.

### 2.2 REINFORCEMENT ACCESSORIES

- A. Bar Supports: Bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcing bars and welded wire reinforcement in place. Manufacture bar supports from steel wire, plastic, or precast concrete according to CRSI's "Manual of Standard Practice," of greater compressive strength than concrete and as follows:
  - 1. For concrete surfaces exposed to view where legs of wire bar supports contact forms, use CRSI Class 1 plastic-protected steel wire or CRSI Class 2 stainless-steel bar supports.

### 2.3 CONCRETE MATERIALS

- A. Cementitious Material: Use the following cementitious materials, of the same type, brand, and source, throughout Project:
  - 1. Portland Cement: ASTM C150, Type II.
- B. Normal-Weight Aggregates: ASTM C33, Class 1S coarse aggregate or better, graded. Provide aggregates from a single source with documented service record data of at least 10 yrs' satisfactory service in similar applications and service conditions using similar aggregates and cementitious materials.
  - 1. Maximum Coarse-Aggregate Size: 3/4 in. nominal.
  - 2. Fine Aggregate: Free of materials with deleterious reactivity to alkali in cement.
- C. Water: ASTM C94/C94M and potable.

### 2.4 ADMIXTURES

- A. General Admixture Requirements



1. Concrete supplier and Contractor shall use manufacturer's product identified in this Section or submit alternate manufacturer product for approval by Commissioner.
  2. All admixtures used in the concrete shall be produced by a single manufacturer.
  3. Concrete supplier and Contractor shall certify compatibility of all ingredients in each mix design. Use admixtures in strict accordance with manufacturer's recommendations.
  4. Concrete supplier and Contractor shall account for admixture volume in the concrete mix proportions in accordance with admixture manufacturer's recommendations.
  5. Do not use calcium chloride or admixtures containing more than 0.1% chloride ions.
- B. Air-Entraining Admixture: ASTM C260, certified by manufacturer to be compatible with other required admixtures. Subject to compliance with requirements, provide one of following, or approved equivalent:
1. Eucon Air-Mix, Euclid Chemical Co.
  2. Darex AEA or Daravair, W.R. Grace & Co.
  3. MB-VR or Micro-Air, BASF Construction Chemicals.
  4. Sika Air, Sika Corp.
- C. Water-Reducing Admixture: ASTM C494, Type A. Subject to compliance with requirements, provide one of following, or approved equivalent:
1. Eucon WR-75, Euclid Chemical Co.
  2. WRDA, W.R. Grace & Co.
  3. Pozzolith Normal or Polyheed, BASF Construction Chemicals.
  4. Viscocrete 2100, Sika Corp.

## 2.5 CURING MATERIALS

- A. Absorptive Cover: AASHTO M182, Class 2, burlap cloth made from jute or kenaf, weighing approximately 9 oz/sq yd when dry.
- B. Moisture-Retaining Cover: ASTM C171, polyethylene film or white burlap-polyethylene sheet.
- C. Water: Potable.

## 2.6 CONCRETE MIXTURES, GENERAL

- A. Prepare design mixtures for each type and strength of concrete, proportioned on the basis of laboratory trial mixture or field test data, or both, according to the New York City Building Code.
  1. Use a qualified independent testing agency for preparing and reporting proposed mixture designs based on laboratory trial mixtures.
- B. Cementitious Materials: Limit percentage, by weight, of cementitious materials other than portland cement in concrete as follows:



1. Fly Ash: 25%.
  2. Ground Granulated Blast-Furnace Slag: 50%.
  3. Combined Fly Ash and Ground Granulated Blast-Furnace Slag: 50% portland cement minimum, with fly ash not exceeding 25%.
- C. Limit water-soluble, chloride-ion content in hardened concrete to 0.06% by weight of cement.
- D. Admixtures: Use admixtures according to manufacturer's written instructions.
1. Use water-reducing and retarding admixture when required by high temperatures, low humidity, or other adverse placement conditions.

## 2.7 CONCRETE MIXTURES FOR BUILDING ELEMENTS

- A. Mat Slab and Spread Footings: Proportion normal-weight concrete mixture as follows:
1. Minimum Compressive Strength: 4,000 psi at twenty-eight days.
  2. Maximum Water-Cementitious Materials Ratio: 0.45.
  3. Slump Limit: 8 in. for concrete with verified slump of 2 to 4 in. before adding high-range water-reducing admixture.
  4. Air Content: 6%, plus or minus 1.5% at point of delivery for 3/4 in. nominal maximum aggregate size.

## 2.8 FABRICATING REINFORCEMENT

- A. Fabricate steel reinforcement according to CRSI's "Manual of Standard Practice".

## 2.9 CONCRETE MIXING

- A. Ready-Mixed Concrete: Measure, batch, mix, and deliver concrete according to ASTM C94/C94M and ASTM C1116, and furnish batch ticket information.
1. When air temperature is between 85°F and 90°F, reduce mixing and delivery time from 1-1/2 hrs to 75 min.; when air temperature is above 90°F, reduce mixing and delivery time to 60 min.

## PART 3 - EXECUTION

### 3.1 GENERAL

- A. Coordinate the installation of joint materials, floor drains, and other related materials with placement of forms and reinforcing steel.





### 3.2 EMBEDDED ITEMS

- A. Place and secure anchorage devices and other embedded items required for adjoining work that is attached to or supported by cast-in-place concrete. Use setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.

### 3.3 STEEL REINFORCEMENT

- A. General: Comply with CRSI's "Manual of Standard Practice" for placing reinforcement.
  - 1. Do not cut or puncture vapor retarder or waterproofing membrane. Repair damage and reseal vapor retarder or waterproofing membrane before placing concrete.
- B. Clean reinforcement of loose rust and mill scale, earth, ice, and other foreign materials that would reduce bond to concrete.
- C. Accurately position, support, and secure reinforcement against displacement. Locate and support reinforcement with bar supports to maintain minimum concrete cover. Do not tack weld crossing reinforcing bars.
- D. Set wire ties with ends directed into concrete, not toward exposed concrete surfaces.
- E. Install welded wire reinforcement in longest practicable lengths on bar supports spaced to minimize sagging. Lap edges and ends of adjoining sheets at least one mesh spacing. Offset laps of adjoining sheet widths to prevent continuous laps in either direction. Lace overlaps with wire.

### 3.4 CONCRETE PLACEMENT

- A. Before placing concrete, verify that installation of formwork, reinforcement, and embedded items is complete and that required inspections have been performed.
- B. Before test sampling and placing concrete, water may be added at Project site, subject to limitations of ACI 301.
  - 1. Do not add water to concrete after adding high-range water-reducing admixtures to mixture.
- C. Deposit concrete continuously in one layer or in horizontal layers of such thickness that no new concrete will be placed on concrete that has hardened enough to cause seams or planes of weakness. If a section cannot be placed continuously, provide construction joints as indicated. Deposit concrete to avoid segregation.
  - 1. Deposit concrete in horizontal layers of depth to not exceed formwork design pressures and in a manner to avoid inclined construction joints.
  - 2. Consolidate placed concrete with mechanical vibrating equipment according to ACI 301.



3. Do not use vibrators to transport concrete inside forms. Insert and withdraw vibrators vertically at uniformly spaced locations to rapidly penetrate placed layer and at least 6 in. into preceding layer. Do not insert vibrators into lower layers of concrete that have begun to lose plasticity. At each insertion, limit duration of vibration to time necessary to consolidate concrete and complete embedment of reinforcement and other embedded items without causing mixture constituents to segregate.
- D. Deposit and consolidate concrete for floors and slabs in a continuous operation, within limits of construction joints, until placement of a panel or section is complete.
1. Consolidate concrete during placement operations so concrete is thoroughly worked around reinforcement and other embedded items and into corners.
  2. Maintain reinforcement in position on chairs during concrete placement.
  3. Screed slab surfaces with a straightedge and strike off to correct elevations.
  4. Slope surfaces uniformly to drains where required.
  5. Begin initial floating using bull floats or darbies to form a uniform and open-textured surface plane, before excess bleedwater appears on the surface. Do not further disturb slab surfaces before starting finishing operations.
- E. Cold-Weather Placement: Comply with ACI 306.1 and as follows. Protect concrete work from physical damage or reduced strength that could be caused by frost, freezing actions, or low temperatures.
1. When average high and low temperature is expected to fall below 40°F for three successive days, maintain delivered concrete mixture temperature within the temperature range required by ACI 301.
  2. Do not use frozen materials or materials containing ice or snow. Do not place concrete on frozen subgrade or on subgrade containing frozen materials.
  3. Do not use calcium chloride, salt, or other materials containing antifreeze agents or chemical accelerators unless otherwise specified and approved in mixture designs.
- F. Hot-Weather Placement: Comply with ACI 301 and as follows:
1. Maintain concrete temperature below 90°F at time of placement. Chilled mixing water or chopped ice may be used to control temperature, provided water equivalent of ice is calculated to total amount of mixing water. Using liquid nitrogen to cool concrete is Contractor's option.
  2. Fog-spray forms, steel reinforcement, and subgrade just before placing concrete. Keep subgrade uniformly moist without standing water, soft spots, or dry areas.

### 3.5 FINISHING SLABS

- A. General: Comply with ACI 302.1R recommendations for screeding, restraightening, and finishing operations for concrete surfaces. Do not wet concrete surfaces.
- B. Float Finish: Consolidate surface with power-driven floats or by hand floating if area is small or inaccessible to power-driven floats. Restraighten, cut down high spots, and fill low spots.



Repeat float passes and restraightening until surface is left with a uniform, smooth, granular texture.

1. Apply float finish to surfaces to be covered with fluid-applied or sheet waterproofing, built-up or membrane roofing, or sand-bed terrazzo.
- C. Broom Finish: Apply a broom finish to exterior concrete platforms, steps, and ramps, and elsewhere as indicated.
1. Immediately after float finishing, slightly roughen trafficked surface by brooming with fiber-bristle broom perpendicular to main traffic route. Coordinate required final finish with Commissioner before application.

### 3.6 MISCELLANEOUS CONCRETE ITEMS

- A. Filling In: Fill in holes and openings left in concrete structures, unless otherwise indicated, after work of other trades is in place. Mix, place, and cure concrete, as specified, to blend with in-place construction. Provide other miscellaneous concrete filling indicated or required to complete the Work.

### 3.7 CONCRETE PROTECTING AND CURING

- A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures. Comply with ACI 306.1 for cold-weather protection and ACI 301 for hot-weather protection during curing.
- B. Unformed Surfaces: Begin curing immediately after finishing concrete. Cure unformed surfaces, including floors and slabs, concrete floor toppings, and other surfaces.
- C. Cure concrete according to ACI 308.1, by one or a combination of the following methods:
1. Moisture Curing: Keep surfaces continuously moist for not less than seven days with the following materials:
    - a. Water.
    - b. Continuous water-fog spray.
    - c. Absorptive cover, water saturated, and kept continuously wet. Cover concrete surfaces and edges with 12 in. lap over adjacent absorptive covers.

### 3.8 CONCRETE SURFACE REPAIRS

- A. Defective Concrete: Repair and patch defective areas when approved by Commissioner. Remove and replace concrete that cannot be repaired and patched to Commissioner's approval.



- B. Patching Mortar: Mix dry-pack patching mortar, consisting of one part portland cement to two-and-one-half parts fine aggregate passing a No. 16 sieve, using only enough water for handling and placing.
- C. Repairing Slab Surfaces: Test slab surfaces for finish and verify surface tolerances specified for each surface. Correct low and high areas. Test surfaces sloped to drain for trueness of slope and smoothness; use a sloped template.
1. Repair finished surfaces containing defects. Surface defects include spalls, popouts, honeycombs, rock pockets, crazing and cracks in excess of 0.01 in. wide or that penetrate to reinforcement or completely through unreinforced sections regardless of width, and other objectionable conditions.
  2. After concrete has cured at least fourteen days, correct high areas by grinding.
  3. Correct localized low areas during or immediately after completing surface finishing operations by cutting out low areas and replacing with patching mortar. Finish repaired areas to blend into adjacent concrete.
  4. Correct other low areas scheduled to remain exposed with a repair topping. Cut out low areas to ensure a minimum repair topping depth of 1/4 in. to match adjacent floor elevations. Prepare, mix, and apply repair topping and primer according to manufacturer's written instructions to produce a smooth, uniform, plane, and level surface.
  5. Repair defective areas, except random cracks and single holes 1 in. or less in diameter, by cutting out and replacing with fresh concrete. Remove defective areas with clean, square cuts and expose steel reinforcement with at least a 3/4 in. clearance all around. Dampen concrete surfaces in contact with patching concrete and apply bonding agent. Mix patching concrete of same materials and mixture as original concrete except without coarse aggregate. Place, compact, and finish to blend with adjacent finished concrete. Cure in same manner as adjacent concrete.
  6. Repair random cracks and single holes 1 in. or less in diameter with patching mortar. Groove top of cracks and cut out holes to sound concrete and clean off dust, dirt, and loose particles. Dampen cleaned concrete surfaces and apply bonding agent. Place patching mortar before bonding agent has dried. Compact patching mortar and finish to match adjacent concrete. Keep patched area continuously moist for at least 72 hrs.
- D. Repair materials and installation not specified above may be used, subject to Commissioner's approval.



### 3.9 QUALITY ASSURANCE

- A. Concrete Tests: Testing of composite samples of fresh concrete obtained according to ASTM C172 shall be performed according to the following requirements:
1. Testing Frequency: Obtain at least one composite sample for each 100 cu yd or fraction thereof of each concrete mixture placed each day.
    - a. When frequency of testing will provide fewer than five compressive-strength tests for each concrete mixture, testing shall be conducted from at least five randomly selected batches or from each batch if fewer than five are used.
  2. Slump: ASTM C143/C143M; one test at point of placement for each composite sample, but not less than one test for each day's pour of each concrete mixture. Perform additional tests when concrete consistency appears to change.
  3. Air Content: ASTM C231, pressure method, for normal-weight concrete; ASTM C173/C173M, volumetric method, for structural lightweight concrete; one test for each composite sample, but not less than one test for each day's pour of each concrete mixture.
  4. Concrete Temperature: ASTM C1064/C1064M; one test hourly when air temperature is 40°F and below and when 80°F and above, and one test for each composite sample.
  5. Unit Weight: ASTM C567, fresh unit weight of structural lightweight concrete; one test for each composite sample, but not less than one test for each day's pour of each concrete mixture.
  6. Compression Test Specimens: ASTM C31/C31M.
    - a. Cast and laboratory cure two sets of two standard cylinder specimens for each composite sample.
  7. Compressive-Strength Tests: ASTM C39/C39M; test one set of two laboratory-cured specimens at seven days and one set of two specimens at twenty-eight days.
    - a. Test one set of two field-cured specimens at seven days and one set of two specimens at twenty-eight days.
    - b. A compressive-strength test shall be the average compressive strength from a set of two specimens obtained from same composite sample and tested at age indicated.
  8. Strength of each concrete mixture will be satisfactory if every average of any three consecutive compressive-strength tests equals or exceeds specified compressive strength and no compressive-strength test value falls below specified compressive strength by more than 500 psi (3.4 MPa).
  9. Test results shall be reported in writing to Commissioner, concrete manufacturer, and Contractor within 48 hrs of testing. Reports of compressive-strength tests shall contain Project identification name and number, date of concrete placement, name of concrete testing and inspecting agency, location of concrete batch in work, design compressive strength at twenty-eight days, concrete mixture proportions and materials, compressive breaking strength, and type of break for both seven and twenty-eight-day tests.



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10. Nondestructive Testing: Impact hammer, sonoscope, or other nondestructive device may be permitted by Commissioner but will not be used as sole basis for approval or rejection of concrete.
11. Additional Tests: Testing and inspecting agency shall make additional tests of concrete when test results indicate that slump, air entrainment, compressive strengths, or other requirements have not been met, as directed by Commissioner. Testing and inspecting agency may conduct tests to determine adequacy of concrete by cored cylinders complying with ASTM C42/C42M or by other methods as directed by Commissioner.
12. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.
13. Correct deficiencies in the Work that test reports and inspections indicate do not comply with the Contract Documents.

**END OF SECTION 033000**



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## SECTION 061050

### MISCELLANEOUS ROUGH CARPENTRY

#### PART 1 - 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. Wood blocking, cants, and nailers.
  2. Wood furring.
  3. Sheathing.
  4. Interior wood trim.
  5. Plywood backing panels.

- B. Related Sections include the following:

1. Division 6 Section "Rough Carpentry and Finish Carpentry"

##### 1.3 DEFINITIONS

- A. 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. SPIB - Southern Pine Inspection Bureau.
  4. WCLIB - West Coast Lumber Inspection Bureau.
  5. WWPA - Western Wood Products Association.

##### 1.4 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, net amount of preservative retained, and chemical treatment





manufacturer's written instructions for handling, storing, installing, and finishing treated material.

2. For products receiving a waterborne treatment, include statement that moisture content of treated materials was reduced to levels specified before shipment to Project site.
3. Include copies of warranties from chemical treatment manufacturers for each type of treatment.

B. Research/Evaluation Reports: For the following, showing compliance with building code in effect for Project:

1. Power-driven fasteners.
2. Powder-actuated fasteners.
3. Expansion anchors.
4. Metal framing anchors.

#### 1.5 DELIVERY STORAGE AND HANDLING

- A. Stack lumber, plywood, and other panels; place spacers between each bundle to provide air circulation. 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 lumber grading agencies certified by the American Lumber Standards Committee Board of Review.
  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, or omit grade stamp and provide certificates of grade compliance issued by grading agency.
  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.
  5. Provide dry lumber with 19 percent maximum moisture content at time of dressing for 2-inch nominal (38-mm actual) thickness or less, unless otherwise indicated.

#### 2.2 WOOD-PRESERVATIVE-TREATED MATERIALS

- A. Preservative Treatment by Pressure Process: AWPA C2 (lumber) and AWPA C9 (plywood), except that lumber that is not in contact with the ground and is continuously protected from liquid water may be treated according to AWPA C31 with inorganic boron (SBX).



1. Preservative Chemicals: Acceptable to authorities having jurisdiction and the following:
    - a. Chromated copper arsenate (CCA).
    - b. Ammoniacal copper zinc arsenate (ACZA).
    - c. Ammoniacal copper citrate (CC).
  2. For exposed items indicated to receive a stained or natural finish, use chemical formulations that do not require incising, contain colorants, bleed through, or otherwise adversely affect finishes.
- B. Kiln-dry material after treatment to a maximum moisture content of 19 percent for lumber and 15 percent for plywood. Do not use material that is warped or does not comply with requirements for untreated material.
- C. Mark each treated item with the treatment quality mark of an inspection agency approved by the American Lumber Standards Committee Board of Review.
- D. Application: Treated wood items include but are not limited to the following:
1. Wood cants, nailers, curbs, blocking, stripping, and similar members in connection with roofing, flashing, vapor barriers, and waterproofing.
  2. Wood sills, sleepers, blocking, furring, stripping, brick moulds and similar concealed members in contact with masonry or concrete.
  3. Wood framing members less than 18 inches (460 mm) above grade.
  4. Wood floor plates that are installed over concrete slabs directly in contact with earth.

### 2.3 MISCELLANEOUS LUMBER

- A. General: Provide lumber for support or attachment of other construction, including the following:
1. Blocking.
  2. Cants.
  3. Nailers.
  4. Furring.
  5. Grounds.
- B. For items of dimension lumber size, provide Construction, Stud, or No. 2 grade lumber with 19 percent maximum moisture content and of the following species:
1. Spruce-pine-fir (south) or Spruce-pine-fir; NELMA, NLGA, WCLIB, or WWPA.
- C. For concealed boards, provide lumber with 19 percent maximum moisture content and the following species and grades:
1. Spruce-pine-fir (south) or Spruce-pine-fir, Construction or 2 Common grade; NELMA, NLGA, WCLIB, or WWPA.



## 2.4 INTERIOR WOOD TRIM

- A. Lumber Trim for Opaque Finish (Painted): Finished lumber (S4S), either finger-jointed or solid lumber, of one of the following species and grades:
  - 1. Grade D Select eastern white pine; NELMA or NLGA.
  - 2. Grade D Select (Quality) Idaho white, lodgepole, ponderosa, or sugar pine; NLGA or WWPA.
  - 3. Moldings for Opaque Finish (Painted): P-grade eastern white, ponderosa, sugar pine, soft maple.

## 2.5 PANEL PRODUCTS

- A. Miscellaneous Concealed Plywood: Exterior sheathing, span rating to suit framing in each location, and thickness as indicated but not less than 1/2 inch (13 mm) or sized as indicated.
- B. Telephone and Electrical Equipment Backing Panels: DOC PS 1, Exposure 1, C-D Plugged, fire-retardant treated, in thickness indicated or, if not indicated, not less than 1/2 inch (12.7 mm) thick.

## 2.6 FASTENERS

- A. General: Provide fasteners of size and type indicated that comply with requirements specified in this Article for material and manufacture.
  - 1. Where carpentry is exposed to weather, in ground contact, or in area of high relative humidity, provide fasteners of Type 304 stainless steel.
- B. Nails, Wire, Brads, and Staples: FS FF-N-105.
- C. Wood Screws: ASME B18.6.1.
- D. Screws for Fastening to Cold-Formed Metal Framing: ASTM C 954, except with wafer heads and reamer wings, length as recommended by screw manufacturer for material being fastened.
- E. Lag Bolts: ASME B18.2.1. (ASME B18.2.3.8M).
- F. Bolts: Steel bolts complying with ASTM A 307, Grade A (ASTM F 568M, Property Class 4.6); with ASTM A 563 (ASTM A 563M) 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 6 times the load imposed when installed in unit masonry assemblies and equal to 4 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: Stainless steel with bolts and nuts complying with ASTM F 593 and ASTM F 594, Alloy Group 1 or 2 (ASTM F 738M and ASTM F 836M, Grade A1 or A4).

## 2.7 METAL FRAMING ANCHORS

- A. General: Provide galvanized steel framing anchors of structural capacity, type, and size indicated and acceptable to authorities having jurisdiction.
- B. Galvanized Steel Sheet: Hot-dip, zinc-coated steel sheet complying with ASTM A 653/A 653M, G60 (Z180) coating designation.

## PART 3 - EXECUTION

### 3.1 INSTALLATION, GENERAL

- A. Discard units of material with defects that impair quality of carpentry and that are too small to use with minimum number of joints or optimum joint arrangement.
- B. Set carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Fit carpentry to other construction; scribe and cope as needed for accurate fit. Locate cants, nailers, blocking, and similar supports to comply with requirements for attaching other construction.
- C. Use only stainless steel type 304 fasteners in application adjacent to or in contact with flashings or sheet metal.
- D. Apply field treatment complying with AWPA M4 to cut surfaces of preservative-treated lumber and plywood.
- E. Securely attach carpentry work as indicated and according to applicable codes and recognized standards.
- F. Countersink fastener heads on exposed carpentry work and fill holes with wood filler.
- G. Use fasteners of appropriate type and length. Predrill members when necessary to avoid splitting wood.

### 3.2 WOOD SLEEPER, BLOCKING, AND NAILER INSTALLATION

- A. Install where indicated and where required for attaching other work. Form to shapes indicated and cut as required for true line and level of attached work. Coordinate locations with other work involved.
- B. Attach items to substrates to support applied loading. Recess bolts and nuts flush with surfaces, unless otherwise indicated.



### 3.3 WOOD TRIM INSTALLATION

- A. Install with minimum number of joints practical, using full-length pieces from maximum lengths of lumber available. Do not use pieces less than 24 inches (610 mm) long except where necessary. Stagger joints in adjacent and related standing and running trim. Cope at returns and miter at corners to produce tight-fitting joints with full-surface contact throughout length of joint. Use scarf joints for end-to-end joints.
1. Match color and grain pattern across joints.
  2. Install trim after gypsum board joint-finishing operations are completed.
  3. Drill pilot holes in hardwood before fastening to prevent splitting. Fasten to prevent movement or warping. Countersink fastener heads and fill holes.
  4. Install to tolerance of 1/8 inch in 96 inches (3 mm in 2438 mm) for level and plumb. Install adjoining finish carpentry with 1/32-inch (0.8-mm) maximum offset for flush installation and 1/16-inch (1.6-mm) maximum offset for reveal installation.

**END OF SECTION 061050**



## SECTION 061053

### ROUGH CARPENTRY AND FINISH CARPENTRY

#### PART 1 - 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. Section Includes:
1. Wood blocking, cants, and nailers.
  2. Wood furring and grounds.
  3. Wood sleepers.
  4. Utility shelving.
  5. Plywood backing panels.
  6. Dimensional Lumber

##### 1.3 DEFINITIONS

- A. Dimension Lumber: Lumber of 2 inches nominal or greater but less than 5 inches nominal in least dimension.
- B. Lumber grading agencies, and the abbreviations used to reference them, include the following:
1. NeLMA: Northeastern Lumber Manufacturers' Association.
  2. NHLA: National Hardwood Lumber Association.
  3. NLGA: National Lumber Grades Authority.
  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. Evaluation Reports: For the following, from ICC-ES:
1. Preservative-treated wood.
  2. Fire-retardant-treated wood.
  3. Power-driven fasteners.
  4. Powder-actuated fasteners.
  5. Expansion anchors.
  6. Metal framing anchors.

#### 1.6 QUALITY ASSURANCE

- A. The contractor or subcontractor performing the work of this section must, within the last five (5) consecutive years prior to the bid opening, have successfully completed in a timely fashion at least three (3) projects similar in scope and type to the required work, based on architectural style, construction method and materials and age of building for this particular project. One such prior project of the three must have involved a landmarked building, as officially designated by the City, State or federal government.
- B. 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 or omit grade stamp and provide certificates of grade compliance issued by grading agency.
  - 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: 15 percent for 2-inch nominal thickness or less, 19 percent for more than 2-inch nominal thickness unless otherwise indicated.
- C. Lumber Grading:
  - 1. Douglas Fir: "Standard Grading and Dressing Rules," No. 17, West Coast Lumber Inspection Bureau.
  - 2. Redwood: "Standard Specifications for Grades of Redwood Lumber" as issued by California Redwood Association.
  - 3. Plywood: U.S. Product Standard PS1 (latest edition), grade stamped and edge branded to DFPA Standards of the APA - The Engineered Wood Association.
- D. Lumber Grade Marking: Each piece of lumber shall bear the official grade mark of the appropriate inspection bureau of the American Lumber Association, California Redwood Association, WCLIB, etc.
- E. Lumber Size and Patterns: Surface four sides, dress sizes to UBC Chapter 23; work to sizes shown. Sizing and surfacing shall be as required and approved for the particular location. Framing shall be sized and where exposed shall be surfaced.





## 2.2 WOOD-PRESERVATIVE-TREATED MATERIALS

- A. Preservative Treatment by Pressure Process: AWPA U1; Use Category UC2 for interior construction not in contact with the ground, Use Category UC3b for exterior construction not in contact with the ground, and Use Category UC4a for items in contact with the ground.
  - 1. Preservative Chemicals: Acceptable to authorities having jurisdiction and containing no arsenic or chromium. Do not use inorganic boron (SBX) for sill plates.
  - 2. For exposed items indicated to receive a stained or natural finish, use chemical formulations that do not require incising, contain colorants, bleed through, or otherwise adversely affect finishes.
- B. Kiln-dry lumber after treatment to a maximum moisture content of 19 percent. Do not use material that is warped or does not comply with requirements for untreated material.
- C. Mark lumber with treatment quality mark of an inspection agency approved by the ALSC Board of Review.
  - 1. For exposed lumber indicated to receive a stained or natural finish, mark end or back of each piece or omit marking and provide certificates of treatment compliance issued by inspection agency.
- D. Application: Treat all miscellaneous carpentry unless otherwise indicated on Drawings, and the following:
  - 1. Wood cants, nailers, curbs, equipment support bases, blocking, stripping, and similar members in connection with roofing, flashing, vapor barriers, and waterproofing.
  - 2. Wood sills, sleepers, blocking, furring, stripping, and similar concealed members in contact with masonry or concrete.
  - 3. Wood framing and furring attached directly to the interior of below-grade exterior masonry or concrete walls.
  - 4. Wood framing members that are less than 18 inches above the ground in crawl spaces or unexcavated areas.
  - 5. Wood floor plates that are installed over concrete slabs-on-grade.

## 2.3 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 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 to ASTM D 5664, and design value adjustment factors shall be calculated according to ASTM D 6841. For enclosed roof framing, framing in attic spaces, and where high temperature fire-retardant treatment is indicated, provide material with adjustment factors of not less than 0.85 modulus of elasticity and 0.75 for extreme fiber in bending for Project's climatological zone.
- 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 testing and inspecting agency acceptable to authorities having jurisdiction.
1. For exposed lumber indicated to receive a stained or natural finish, mark end or back of each piece or omit marking and provide certificates of treatment compliance issued by inspection agency.
- 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 miscellaneous carpentry unless otherwise indicated
1. Framing for raised platforms.
  2. Concealed blocking.
  3. Roof framing and blocking.
  4. Wood cants, nailers, curbs, equipment support bases, blocking, and similar members in connection with roofing.
  5. Plywood backing panels.

## 2.4 DIMENSION LUMBER FRAMING

- A. Non-Load-Bearing Interior Partitions: Construction grade of any species. and any of the following species: and the following species:
1. Hem-fir (north); NLGA.
  2. Mixed southern pine; SPIB.



3. Spruce-pine-fir; NLGA.
4. Hem-fir; WCLIB or WWPA.
5. Spruce-pine-fir (south); NeLMA, WCLIB, or WWPA.
6. Northern species; NLGA.
7. Eastern softwoods; NeLMA.
8. Western woods; WCLIB or WWPA.

B. Other Exterior Framing: Construction grade and any of the following species:

1. Hem-fir (north); NLGA.
2. Southern pine; SPIB.
3. Douglas fir-larch; WCLIB or WWPA.
4. Mixed southern pine; SPIB.
5. Spruce-pine-fir; NLGA.
6. Douglas fir-south; WWPA.
7. Hem-fir; WCLIB or WWPA.
8. Douglas fir-larch (north); NLGA.
9. Spruce-pine-fir (south); NeLMA, WCLIB, or WWPA.

## 2.5 MISCELLANEOUS LUMBER

A. General: Provide miscellaneous lumber indicated and lumber for support or attachment of other construction, including the following:

1. Blocking.
2. Nailers.
3. Rooftop equipment bases and support curbs.
4. Cants.
5. Furring.
6. Grounds.
7. Utility shelving.

B. For items of dimension lumber size, provide Construction grade lumber and any of the following species:

1. Hem-fir (north); NLGA.
2. Mixed southern pine; SPIB.
3. Spruce-pine-fir; NLGA.
4. Hem-fir; WCLIB or WWPA.
5. Spruce-pine-fir (south); NeLMA, WCLIB, or WWPA.
6. Western woods; WCLIB or WWPA.
7. Northern species; NLGA.
8. Eastern softwoods; NeLMA.

C. For utility shelving, provide lumber with 19 percent maximum moisture content and any of the following species and grades:



1. Eastern white pine, Idaho white, lodgepole, ponderosa, or sugar pine; Premium or No. 2 Common grade; NeLMA, NLGA, WCLIB, or WWPA.
  2. Mixed southern pine, No. 1 grade; SPIB.
  3. Hem-fir or hem-fir (north), Select Merchantable or No. 1 Common grade; NLGA, WCLIB, or WWPA.
  4. Spruce-pine-fir (south) or spruce-pine-fir, Select Merchantable or No. 1 Common Construction or No. 2 Common grade; NeLMA, NLGA, WCLIB, or WWPA.
- D. For concealed boards, provide lumber with 15percent maximum moisture content and any of the following species and grades:
1. Mixed southern pine, No. 3 grade; SPIB.
  2. Hem-fir or hem-fir (north), Construction grade; NLGA, WCLIB, or WWPA.
  3. Spruce-pine-fir (south) or spruce-pine-fir, Construction grade; NeLMA, NLGA, WCLIB, or WWPA.
  4. Eastern softwoods, Common grade; NELMA.
  5. Northern species, Common grade; NLGA.
  6. Western woods, Construction grade; WCLIB or WWPA.
- E. For blocking not used for attachment of other construction, Utility, Stud, or No. 3 grade lumber of any species may be used provided that it is cut and selected to eliminate defects that will interfere with its attachment and purpose.
- F. For blocking and nailers used for attachment of other construction, select and cut lumber to eliminate knots and other defects that will interfere with attachment of other work.
- G. For furring strips for installing plywood or hardboard paneling, select boards with no knots capable of producing bent-over nails and damage to paneling.

## 2.6 PLYWOOD BACKING PANELS

- A. Equipment Backing Panels: DOC PS 1, Exterior, AC Exterior, C-C Plugged, Exposure 1, C-D Plugged, fire-retardant treated, in thickness indicated or, if not indicated, not less than 3/4-inch 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."

## 2.7 FASTENERS

- A. General: Provide fasteners of size and type indicated that comply with requirements specified in this article for material and manufacture.



1. Where carpentry is exposed to weather, in ground contact, pressure-preservative treated, or in area of high relative humidity, provide fasteners with hot-dip zinc coating complying with ASTM A 153/A 153M of Type 304 stainless steel.
- B. Nails, Brads, and Staples: ASTM F 1667.
1. Nailing of wood members shall conform to Uniform Building Code and/or as indicated. Box nails are not permitted.
  2. Penetration: half-length of nail into piece receiving point.
  3. To connect pieces 2 inches (25 mm) net in thickness, 16d nails may be used.
  4. Do not drive nails closer together than half their length, nor closer to edge of piece of lumber or timber than 1/4 their length.
  5. Spacing and size of nails to be such that splitting will not occur. Pre-bore holes for nails wherever necessary to prevent splitting. Bore diameter of holes smaller than diameter of nail or spike (3/4 dia.).
  6. For plywood nailing, barbed plywood nails, size and spacing as indicated. Nails shall have edge distances of not less than 3/8 inch (9.5 mm).
- C. Use galvanized nails where exposed to weather or where members are built-in to roofing
- D. Power-Driven Fasteners: NES NER-272.
- E. Wood Screws: ASME B18.6.1.
1. Screws are to be turned into place, not driven. Self-tapping where required for fastening to metal framing.
  2. Countersink where heads will interfere or as required.
  3. Screw bolt holes the same diameter and depth as shank; bore holes for threaded portion of screws with bit no larger than base of thread.
  4. Use galvanized or cadmium plated screws on fastenings exposed to weather or where members are built-in to roofing.
- F. Screws for Fastening to Metal Framing: ASTM C 1002 ASTM C 954, length as recommended by screw manufacturer for material being fastened.
- G. Lag Bolts: ASME B18.2.1
- H. Bolts: Steel bolts complying with ASTM A 307, Grade A with ASTM A 563 hex nuts and, where indicated, flat washers.
1. To be installed in drilled holes the diameter of the bolt, 1/32 inch (0.8 mm) to 1/16-inch (1.6 mm) over size.
  2. Bolting of wood members shall conform to CBC requirements and as called for on the drawings.



3. Washers: Provide bolts bearing on wood, unless noted otherwise on the drawings, with malleable iron, or steel plate washers under heads and nuts. Do no final bolting until structure has been properly aligned.
  4. Use galvanized bolts, nuts and washers where exposed to weather or where members are built-in to roofing.
- I. Expansion Anchors: Anchor bolt and sleeve assembly of material indicated below with capability to sustain, without failure, a load equal to 6 times the load imposed when installed in unit masonry assemblies and equal to 4 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 complying with ASTM F 593 and ASTM F 594, Alloy Group 1 or 2.

## 2.8 METAL FRAMING ANCHORS

- A. General: Provide anchors of size and type indicated that comply with requirements specified in this article for material and manufactures listed:
1. Cleveland Steel Specialty
  2. KC Metals Products Inc.
  3. Phoenix Metal Products
  4. Simpson Strong-Tie Co.
  5. or Approved Equal
- B. Galvanized-Steel Sheet: Hot-dip, zinc-coated steel sheet complying with ASTM A 653/A 653M, G60 coating designation.
1. Use for interior locations unless otherwise indicated.
- C. Hot-Dip Heavy-Galvanized Steel Sheet: ASTM A 653/A 653M; Structural Steel (SS), high-strength low-alloy steel Type A (HSLAS Type A), or high-strength low-alloy steel Type B (HSLAS Type B); G185 coating designation; and not less than 0.036 inch thick.
1. Use for wood-preserved-treated lumber and where indicated.
- D. Stainless-Steel Sheet: ASTM A 666, Type 304, Type 316.
1. Use for exterior locations and where indicated.



## 2.9 MISCELLANEOUS MATERIALS

- A. Adhesives for Gluing to Concrete or Masonry: Formulation complying with ASTM D 3498 that is approved for use indicated by adhesive manufacturer.
  - 1. Adhesives shall have a VOC content of 70g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).
  - 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."
- B. Flexible Flashing: Composite, self-adhesive, flashing product consisting of a pliable, butyl rubber compound, bonded to a high-density polyethylene film, aluminum foil, or spunbonded polyolefin to produce an overall thickness of not less than 0.025 inch (0.6 mm).

## PART 3 - EXECUTION

### 3.1 INSTALLATION, GENERAL

- A. Set carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Fit carpentry to other construction; scribe and cope as needed for accurate fit. Locate furring, nailers, blocking, grounds, and similar supports to comply with requirements for attaching other construction.
- B. Where wood-preserved-treated lumber is installed adjacent to metal decking, install continuous flexible flashing separator between wood and metal decking.
- C. Framing Standard: Comply with AF&PA's WCD 1, "Details for Conventional Wood Frame Construction," unless otherwise indicated.
- D. Install plywood backing panels by fastening to studs; coordinate locations with utilities requiring backing panels. Install fire-retardant treated plywood backing panels with classification marking of testing agency exposed to view.
- E. Metal Framing Anchors: Install metal framing anchors to comply with manufacturer's written instructions. Install fasteners through each fastener hole.
- F. Do not splice structural members between supports unless otherwise indicated.
- G. 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.



- H. Provide fire blocking in furred spaces, stud spaces, and other concealed cavities as indicated and as follows:
1. Fire block furred spaces of walls, at each floor level, at ceiling, and at not more than 96 inches o.c. with solid wood blocking or noncombustible materials accurately fitted to close furred spaces.
  2. Fire block concealed spaces of wood-framed walls and partitions at each floor level, at ceiling line of top story, and at not more than 96 inches o.c. Where fire blocking is not inherent in framing system used, provide closely fitted solid wood blocks of same width as framing members and 2-inch nominal thickness.
  3. Fire block concealed spaces between floor sleepers with same material as sleepers to limit concealed spaces to not more than 100 sq. ft. and to solidly fill space below partitions.
  4. Fire block concealed spaces behind combustible cornices and exterior trim at not more than 20 feet o.c.
- I. 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.
- J. 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.
- K. Securely attach 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.
- L. 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 INSTALLATION - LUMBER AND DECKING

- A. Secure decking perpendicular to framing members with ends staggered over firm bearing where possible. Refer to Contract Drawings for details.





- B. Maintain deck joints of 1/16 inch (1.6 mm).
- C. Surface Flatness: +/- 1/4-inch (6 mm) in 10 feet (3 m) maximum.

### 3.3 EXTERIOR FRAMING

- A. Install framing in strict accordance with the requirements of CBC Chapter 23 unless more stringent requirements are specified herein or shown on the Drawings.
- B. Optimum Value Engineering: Where indicated on drawings or, with prior approval by the commissioner, the following framing techniques may be employed. Nothing in this Section shall supersede requirements of CBC Chapter 23 as modified by Division 01 Section "Lateral Force Procedures", or other requirements in the Drawings or Specifications.
  - 1. Wall studs spaced at 24 inches (600 mm) on center (Verify with Project Manager and ensure that wall finish materials can meet spans)
  - 2. On non-bearing walls, or where upper level framing aligns with lower floor, a single continuous top plate may be used.
  - 3. Built up headers may be used in lieu of solid lumber.
  - 4. Frame corners with two studs and framing clips.
  - 5. Use blocking for attachments in lieu of continuous stud.
  - 6. Delete headers at non-load bearing walls.
  - 7. Layout framing to take advantage of sheathing or siding dimensions.

### 3.4 WOOD BLOCKING, AND NAILER INSTALLATION

- A. Install where indicated and where required for screeding or attaching other work. Form to shapes indicated and cut as required for true line and level of attached work. Coordinate locations with other work involved.
- B. Attach items to substrates to support applied loading. Recess bolts and nuts flush with surfaces unless otherwise indicated.
- C. Provide permanent grounds of dressed, pressure-preservative-treated, key-beveled lumber not less than 1-1/2 inches wide and of thickness required to bring face of ground to exact thickness of finish material. Remove temporary grounds when no longer required.

### 3.5 WOOD FURRING INSTALLATION

- A. Install level and plumb with closure strips at edges and openings. Shim with wood as required for tolerance of finish work.
- B. Furring to Receive Plywood or Hardboard Paneling: Install 1-by-3-inch nominal-size furring horizontally and vertically at 24 inches o.c.



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- C. Furring to Receive Gypsum Board: Install 1-by-2-inch nominal-size furring vertically at 16 inches o.c.

### 3.6 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.
- B. Protect miscellaneous rough carpentry from weather. If, despite protection, miscellaneous rough carpentry becomes wet, apply EPA-registered borate treatment. Apply borate solution by spraying to comply with EPA-registered label.

**END OF SECTION 061053**



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## SECTION 071353

### SHEET MEMBRANE WATERPROOFING

#### PART 1 – 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 work of this section includes, but is not limited to, the following and shall be applied to exterior below grade surface of concrete and masonry foundation walls:
1. Rubberized asphalt sheet membrane waterproofing
  2. Prefabricated drainage composite
  3. Protection board
- B. Related Sections: Other specification sections which directly relate to the work of this section include, but are not limited to, the following:
- 1 Section 076200 – Flashing and Sheet Metal

##### 1.3 REFERENCE STANDARDS

- A. The following standards and publications are applicable to the extent referenced in the text.
- B. American Society for Testing and Materials (ASTM)
- C 836 Standard Specification for High Solids, Cold Liquid-Applied Elastomeric Waterproofing Membrane for Use with Separate Wearing Course
  - D 412 Standard Test Methods for Rubber Properties in Tension
  - D 570 Standard Test Method for Water Absorption of Plastics
  - D 882 Standard Test Methods for Tensile Properties of Thin Plastic Sheeting
  - D 903 Standard Test Method for Peel or Stripping Strength of Adhesive Bonds
  - D 1876 Standard Test Method for Peel Release of Adhesives (T-Peel)



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D 1970 Standard Specification for Self-Adhering Polymer Modified Bituminous Sheet  
Materials Used as Steep Roofing Underlayment for Ice Dam Protection

D 3767 Standard Practice for Rubber - Measurements of Dimensions

D 5385 Standard Test Method for Hydrostatic Pressure Resistance of Waterproofing  
Membranes

E 96 Standard Test Methods for Water Vapor Transmission of Materials

E 154 Standard Test Methods for Water Vapor Retarders Used in Contact with Earth Under  
Concrete Slabs, on Walls, or as Ground Cover

#### 1.4 SUBMITTALS

- A. Product Data: Submit manufacturer's product data, installation instructions, use limitations and recommendations.
- B. Samples: Submit representative samples of the following for approval:
  - 1. Sheet membrane
  - 2. Protection board
  - 3. Prefabricated drainage composite

#### 1.5 QUALITY ASSURANCE

- A. Manufacturer: Sheet membrane waterproofing shall be manufactured by a firm with a minimum of 3 years experience in the production self-adhesive bituminous sheet membrane waterproofing.
- B. Installer: A firm which has at least 3 years experience in work of the type required by this section.
- C. Materials: For each type of material required for the work of this section, provide primary materials which are the products of one manufacturer.
- D. Pre-Installation Conference: A pre-installation conference shall be held prior to commencement of field operations to establish procedures to maintain optimum working conditions and to coordinate this work with related and adjacent work. Agenda for meeting shall include review of special details and flashing.

#### 1.6 DELIVERY, STORAGE AND HANDLING

- A. Deliver materials and products in labeled packages. Store and handle in strict compliance with manufacturer's instructions, recommendations and material safety data sheets. Protect from damage from sunlight, weather, excessive temperatures and construction operations. Remove damaged material from the site and dispose of in accordance with applicable regulations.

1. Do not double-stack pallets of membrane on the job site. Provide cover on top and all sides, allowing for adequate ventilation.
  2. Protect mastic and adhesive from moisture and potential sources of ignition.
  3. Store drainage composite or protection board flat and off the ground. Provide cover on top and all sides.
- B. Sequence deliveries to avoid delays, but minimize on-site storage.

#### 1.7 PROJECT CONDITIONS

- A. Perform work only when existing and forecasted weather conditions are within the limits established by the manufacturer of the materials and products used.
- B. Observe existing site and building conditions and coordinate the Work with that of other trades. Proceed with installation only when substrate construction and preparation work has been observed, is complete and in an acceptable condition to receive sheet membrane waterproofing.

#### 1.8 WARRANTY

- A. Sheet Membrane Waterproofing: Provide written 5 year material warranty issued by the membrane manufacturer upon completion of the work.

### PART 2 — PRODUCTS

#### 2.1 MATERIALS

- A. Sheet Membrane Waterproofing: Bituthene 3000/Low Temperature Membrane by Grace Construction Products or an approved equal, a self-adhesive, cold-applied composite sheet consisting of a thickness of 1.4 mm (0.056 in.) of rubberized asphalt and 0.1 mm (0.004 in.) of cross-laminated, high density polyethylene film. Provide rubberized asphalt membrane covered with a release sheet, which is removed during installation. No special adhesive or heat shall be required to form laps.
- B. Sheet Membrane Waterproofing

#### PHYSICAL PROPERTIES FOR BITUTHENE 3000/LOW TEMPERATURE MEMBRANE:

Property	Test Method	Typical Value
Color		Dark gray-black
Thickness	ASTM D 3767 Method A	1.5 mm (0.060 in.) nominal
Flexibility, 180° bend over 25 mm (1 in.) mandrel at -43°C (-45°F)	ASTM D 1970	Unaffected



Tensile Strength, Membrane Die C	ASTM D 412 Modified <sup>1</sup>	2240 kPa (325 lbs/in. <sup>2</sup> ) minimum
Tensile Strength, Film	ASTM D 882 Modified <sup>1</sup>	34.5 MPa (5,000 lbs/in. <sup>2</sup> ) minimum
Elongation, Ultimate Failure of Rubberized Asphalt	ASTM D 412 Modified <sup>1</sup>	300% minimum
Crack Cycling at -32°C (-25°F), 100 Cycles	ASTM C 836	Unaffected
Lap Adhesion at Minimum Application Temperature	ASTM D 1876 Modified <sup>2</sup>	700 N/m (4 lbs/in.) – Bituthene 3000 880 N/m (5 lbs/in.) – Low Temp
Peel Strength	ASTM D 903 Modified <sup>3</sup>	1576 N/m (9 lbs/in.)
Puncture Resistance, Membrane	ASTM E 154	222 N (50 lbs) minimum
Resistance to Hydrostatic Head	ASTM D 5385	60 m (200 ft) of water
Permeance	ASTM E 96, Section 12 – Water Method	2.9 ng/m <sup>2</sup> sPa (0.05 perms) maximum
Water Absorption	ASTM D 570	0.1% maximum

*Footnotes:*

1. The test is run at a rate of 50 mm (2 in.) per minute.
2. The test is conducted 15 minutes after the lap is formed and run at a rate of 50 mm (2 in.) per minute at -4°C (25°F).
3. The 180° peel strength is run at a rate of 300 mm (12 in.) per minute.

C. Prefabricated Drainage Composite:

1. A/D Fire Protection Systems Inc.
2. Hydroduct 220 Drainage Composite by Grace Construction Products
3. Steriltech Corporation
4. or approved equal

Drainage Composite shall be designed to promote positive drainage while serving as a protectioncourse.

D. Protection Board:

1. Expanded Polystyrene Protection Board: 25 mm (1 in.) thick for vertical applications with the following characteristics. Adhere to waterproofing membrane with Bituthene Protection Board Adhesive.

Normal Density: 16 kg/m<sup>3</sup> (1.0 lb/ft<sup>3</sup>)

Thermal Conductivity, K factor: 0.24 at 5°C (40°F), 0.26 at 24°C (75°F)

Thermal Resistance, R-Value: 4 per 25 mm (1 in.) of thickness.

## 2.2 MANUFACTURERS

A. Available Products: Subject to compliance with requirements, through-penetration firestop systems that may be incorporated into the Work include, but are not limited to systems that are produced by one of the following manufacturers: Products shall bear the UL classification mark and shall not reduce the fire separation rating

1. A/D Fire Protection Systems Inc.
2. Grace, W. R. & Co. - Conn.
3. Steriltech Corporation
4. or approved equal

## PART 3 — EXECUTION

### 3.1 EXAMINATION

A. The installer shall examine conditions of substrates and other conditions under which this work is to be performed and notify the contractor, in writing, of circumstances detrimental to the proper completion of the work. Do not proceed with work until unsatisfactory conditions are corrected.

### 3.2 PREPARATION OF SUBSTRATES

- A. Refer to manufacturer's literature for requirements for preparation of substrates. Surfaces shall be structurally sound and free of voids, spalled areas, loose aggregate and sharp protrusions. Remove contaminants such as grease, oil and wax from exposed surfaces. Remove dust, dirt, loose stone and debris. Use repair materials and methods which are acceptable to manufacturer of sheet membrane waterproofing.
- B. Cast-In-Place Concrete Substrates:
1. Do not proceed with installation until concrete has properly cured and dried (minimum 7 days for normal structural concrete and minimum 14 days for lightweight structural concrete).
  2. Fill form tie rod holes with concrete and finish flush with surrounding surface.
  3. Repair bugholes over 13 mm (0.5 in.) in length and 6 mm (0.25 in.) deep and finish flush with surrounding surface.
  4. Remove scaling to sound, unaffected concrete and repair exposed area.
  5. Grind irregular construction joints to suitable flush surface.
- C. Masonry Substrates: Apply waterproofing over concrete masonry units with smooth trowel-cut mortar joints or parge coat.
- D. Existing Masonry Substrates: Remove excess dirt and debris. Rake out loose mortar to a depth of 2". Remove all loose mortar and repoint loose mortar joints. Apply waterproofing over existing rubble masonry and/or existing brick with smooth trowel-cut mortar joints or parge coat.





E. Priming:

1. Prime concrete and/or masonry surfaces that are to receive the bituthene membrane prior to installation of the membrane.
2. Apply primer to surfaces with a lamb's wool roller at a coverage rate of 250–350 ft<sup>2</sup>/gal (6–8 m<sup>2</sup>/L). Allow primer to dry one hour or until tack-free. Dry time may be longer in cold temperatures. Re-prime areas if contaminated by dust. If the work area is dusty, apply membrane as soon as the primer is dry.
3. Do not apply any primer to Bituthene membrane.
4. Do not install membrane until primer is tack free.

3.3 INSTALLATION

- A. Refer to manufacturer's literature for recommendations on installation, including but not limited to, the following:
1. Apply primer at rate recommended by manufacturer. Re-coat areas not waterproofed if contaminated by dust. Mask and protect adjoining exposed finish surfaces to protect those surfaces from excessive application of primer.
  2. Delay application of membrane until primer is completely dry. Dry time will vary with weather conditions.
  3. Seal daily terminations with troweled bead of mastic.
  4. Apply protection board and related materials in accordance with manufacturer's recommendations.
- B. Corner Details: The treatment of corners varies depending on the location of the corner. At inside corners and termination of membrane, provide a Bituthene liquid membrane or mastic.
1. At wall to footing inside corners: Treat the inside corner by installing a 3/4 in. (20 mm) fillet of Bituthene Liquid Membrane or mastic. Apply 12 in. (300 mm) wide strip of sheet membrane centered over fillet. Apply wall membrane over inside corner and extend 6 in. (150 mm) onto footing.
  2. At all membrane termination points: Apply a minimum of 1 in. (25 mm) wide troweling of Bituthene Liquid Membrane or mastic over and under all terminations and seams.

3.04 CLEANING AND PROTECTION

- A. Remove any masking materials after installation. Clean any stains on materials which would be exposed in the completed work.
- B. Protect completed membrane waterproofing from subsequent construction activities as recommended by manufacturer.

**END OF SECTION 071353**



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## SECTION 073150

### SLATE SHINGLE ROOFING

#### PART 1 - 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. Slate Shingles
  2. Underlayment
  3. Metal flashings required for a watertight slate shingle roof installation
  4. Fasteners

##### 1.3 DEFINITIONS

- A. Roofing Terminology: *Refer* to ASTM 1079 and glossary of NRCA's "The NRCA Roofing and Waterproofing Manual" for definitions of terms related to roofing work in this Section.

##### 1.4 SUBMITTALS

- A. Product Data: Include slate properties, construction details, material descriptions, dimensions of individual components and profiles, and finishes for each type of slate indicated.
- B. Shop Drawings: Include sections at hips, gables, ridges, valleys and eaves; component details; accessories; and attachments for other work.



- C. Samples for Submittal: Manufacturer's color charts consisting of units for sections of units showing the full range of colors, textures, shape and size specified, showing the full range of variations expected. Prepare samples from the same material to be used for the work.

#### 1.5 QUALITY ASSURANCE

- A. The contractor or subcontractor performing the work of these sections must be a company regularly engaged in performing roofing projects with its own workforce and have successfully completed in a timely fashion at least three (3) roofing projects similar in scope, size and type to the required work within the last three (3) consecutive years prior to the bid opening. At least one of those projects must have been performed within the last twelve (12) months. The three (3) qualifying projects must have utilized one or more of the roofing systems specified for the project being bid herein, been installed by the contractor's or subcontractor's company utilizing its own workforce and must have qualified for, and have been issued, the warranty provided by the manufacturer of the roofing system. In addition, the contractor or subcontractor must be a certified or authorized installer for at least one of the manufacturer's roofing systems specified herein and shall submit proof of same.

#### 1.6 DELIVERY, STORAGE AND HANDLING

- A. Deliver slate shingles to Project site and store as close as possible to the point of installation to minimize damage while handling.
- B. Store and handle roofing materials to prevent breakage.

#### 1.7 WARRANTY

- A. Slate Shingle Roofing: Provide written 5 year material warranty issued by the manufacturer upon completion of the work.

### PART 2 - PRODUCTS

#### 2.1 MANUFACTURERS

- A. Manufacturers:

1. Greenstone Slate Company, 325 Upper Road, Poultney, VT  
(802) 287-4333
2. Vermont Slate Company, PO Box 114 Poltney, VY 05764



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(866) 895-9904

3. Vermont Specialty Slate, Inc., 855 North Street, Forest Dale, VT 05745

(802) 247-6615

4. or approved Equal

## 2.2 SLATE

A. Slate Shingles: C406-89, Grade S1; hard, dense, and sound; chamfered edges, with nail holes machine punched or drilled and countersunk. No broken or cracked slates, no broken exposed corners exceeding 1 1/2", and no broken corners on covered ends that could sacrifice nailing strength or laying of a watertight roof.

1. Thickness of Slate:

- a. 1/4" Standard Grade-Selects 680-780 lbs/sq
- b. 1/4" to 3/8" Standard - Rough Texture 800-1000 lbs/sq
- c. 3/8" to 1/2" Thickness - Architectural 1200- lbs/sq
- d. 1/2" to 3/4" Thickness - Heavy Grade 1800-2200 lbs/sq
- e. 3/4" to 1" Thickness - Estate Grade 2500-3000 lbs/sq

2. Color of slate to match existing- use the list below as a guide:

- a. Vermont Semi-Weathering Gray Green
- b. Vermont Clear Black
- c. Vermont Clear Gray
- d. Vermont Gray-Black
- e. Vermont Strata Gray
- f. Non-Weathering Mottled Green and Purple
- g. Non-Weathering Purple
- h. Non-Weathering Gray/Green
- i. Royal Purple
- j. Vermont Variegated Purple
- k. Non-Weathering Red

3. Sized to match existing:

- a. Length of Slate To Be 20" to be verified in field
- b. Width of Slate To Be 13" to be verified in field
- c. (If Random Widths to be used, width shall not be less than 1/2 length.)

## 2.3 METAL FLASHING AND TRIM

A. Sheet Metal Flashing and Trim: Comply with requirements in Division 7 Section "Sheet Metal Flashing and Trim".



1. Sheet Metal: Copper

- B. Fabricate sheet metal flashing and trim to comply with recommendations in SMACNA's "Architectural Sheet Metal Manual" that apply to design, dimensions, metal, and other characteristics of item.

2.4 UNDERLAYMENTS

- A. One layer of 30# felt paper over entire roof deck

2.5 FASTENERS

- A. Provide 10 gauge solid copper slaters nails. Length (formula=thickness x 2 + 1")

2.6 Elastomeric Sealant

- A. ASTM C920 elastomeric polyurethane, polymer sealant; of Type, Grade, Class and Use classifications required to seal joints in slate shingle roofing and remain watertight. Where sealant will be exposed, provide in color matching shingle.

**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 work.
1. Examine roof sheathing to verify sheathing joints are supported by framing and blocking or metal clips and that installation is within flatness tolerances.
  2. Verify that substrate is sound, dry, smooth, clean, sloped for drainage, and completely anchored; and that provision has been made for flashings and penetrations through roofing.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 METAL FLASHING INSTALLATION

- A. General: Install metal flashings and other sheet metal to comply with requirements in Division 7 Section "Sheet Metal Flashing and Trim".
- B. Install metal flashings according to recommendations in NRCA's "The NRCA Roofing and Waterproofing Manual".



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- C. Apron Flashing: Extend lower flange over and beyond each side of down slope slate shingles and up the vertical surface.
- D. Step Flashings: Install with a 3-inch head lap extending over the underlying slateshingles and up the vertical surface. Install with lower edge of flashing just upslope of and concealed by, butt of overlying slate shingle. Fasten to roof deck only.
- E. Cricket Flashings: Install against the roof penetrating element, extending concealed flange beneath upslope slate shingles and beyond each side.
- F. Hip Flashings: Install centrally over hip with lower edge of flashing concealed by butt of overlying slate shingle. Fasten to roof deck.
- G. Open Valley Flashings: Install centrally in valleys, lapping ends at least 8 inches in direction to shed water. Fasten upper end of each length to roof deck beneath overlap.
- H. Rake Drip Edges: Install over underlayment and fasten to roof deck.
- I. Eave Drip Edges: Install beneath underlayment and fasten to roof deck.

### 3.3 SLATE-SHINGLE INSTALLATION

- A. Installation, General: Beginning at eaves, install slate shingles according to written recommendations of Greenstone Slate and details and recommendations in NRCA's "The NRCA Roofing And Waterproofing Manual" or an approved equal agency.
  - 1. Install shingle starter course chamfered edge down.
- B. Install first and remaining shingle courses with chamfered face up. Install full width first course at rake edge.
  - 1. Offset joint of random width slate a minimum of 3 inches in succeeding courses.
- C. Maintain a 3-inch minimum head lap between succeeding shingle courses.
- D. Extend shingle starter course and first course 2 inches over facial at eaves.
- E. Extend shingle starter course and succeeding courses 1 inch over rake edge.
- F. Cut and fit slate neatly around projections through roof.
- G. Hang slate with two fasteners for each shingle with fasteners lightly touching slate. Do not drive fasteners home drawing slates downward or leave fastener head protruding enough to interfere with overlapping shingle above.
- H. Hips:
  - 1. Mitered Hip
  - 2. Saddle Hip
  - 3. Boston Hip



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4. Fantail Hip

5. Copper

I. Ridges:

1. Saddle Ridge

2. Strip Saddle Ridge

3. Comb Ridge

4. Copper Ridge

J. Valleys:

1. Open Valleys

2. Closed Valleys

3. Round Valleys

4. Canoe Valleys

K. Cut slate shingles to form straight lines at open valleys, trimming upper concealed corners of shingles. Maintain uniform width of exposed open valley from highest to lowest point.

1. Do not nail shingles to valley metal flashings.

3.4 ADJUSTING AND CLEANING

A. Remove and replace damaged or broken slates.

B. Remove excess slate and debris from project site.

3.5 INSPECTIONS

A. The Commissioner shall perform a final inspection of work and supply Contractor with Punch List if necessary. All punch list items shall be completed prior to approval by Commissioner for final payment.

**END OF SECTION 073150**



**SECTION 076200**  
**SHEET METAL FLASHING AND TRIM**

**PART 1 - 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 sheet metal flashing and trim:
1. Manufactured through-wall flashing.
  2. Manufactured reglets.
  3. Formed low-slope roof flashing and trim.
  4. Formed wall flashing and trim.
  5. Formed equipment support flashing.
  6. Formed overhead-piping safety pans.

**1.3 PERFORMANCE REQUIREMENTS**

- A. General: Install sheet metal flashing and trim to withstand wind loads, structural movement, thermally induced movement, and exposure to weather without failing, rattling, leaking, and fastener disengagement.
- B. Fabricate and install roof edge flashing and copings capable of resisting the following forces according to recommendations in FMG Loss Prevention Data Sheet 1-49:
1. Wind Zone 2: For velocity pressures of 31 to 45 lbf/sq. ft. (1.48 to 2.15 kPa): 90-lbf/sq. ft. (4.31-kPa) perimeter uplift force, 120-lbf/sq. ft. (5.74-kPa) corner uplift force, and 45-lbf/sq. ft. (2.15-kPa) outward force.
- C. Thermal Movements: Provide sheet metal flashing and trim that allow for thermal movements resulting from the following maximum change (range) in ambient and surface temperatures by preventing buckling, opening of joints, hole elongation, overstressing of components, failure of joint sealants, failure of connections, and other detrimental effects. Provide clips that resist rotation and avoid shear stress as a result of sheet metal and trim





thermal movements. Base engineering calculation on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.

1. Temperature Change (Range): 120 deg F (67 deg C), ambient; 180 deg F (100 deg C), material surfaces.

- D. Water Infiltration: Provide sheet metal flashing and trim that do not allow water infiltration to building interior.

#### 1.4 SUBMITTALS

- A. Product Data: For each type of product indicated. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes.

- B. Shop Drawings: Show layouts of sheet metal flashing and trim, including plans and elevations. Distinguish between shop- and field-assembled work. Include the following:

1. Identify material, thickness, weight, and finish for each item and location in Project.
2. Details for forming sheet metal flashing and trim, including profiles, shapes, seams, and dimensions.
3. Details for fastening, joining, supporting, and anchoring sheet metal flashing and trim, including fasteners, clips, cleats, and attachments to adjoining work.
4. Details of expansion-joint covers, including showing direction of expansion and contraction.

- C. Samples for Initial Selection: For each type of sheet metal flashing and trim indicated with factory-applied color finishes.

1. Include similar Samples of trim and accessories involving color selection.

- D. Samples for Verification: For each type of exposed finish required, prepared on Samples of size indicated below:

1. Sheet Metal Flashing: 12 inches (300 mm) long. Include fasteners, cleats, clips, closures, and other attachments.
2. Trim: 12 inches (300 mm) long. Include fasteners and other exposed accessories.
3. Accessories: Full-size Sample.

#### 1.5 QUALITY ASSURANCE

- A. Sheet Metal Flashing and Trim Standard: Comply with SMACNA's "Architectural Sheet Metal Manual." Conform to dimensions and profiles shown unless more stringent requirements are indicated.

1. Copper Standard: Comply with CDA's "Copper in Architecture Handbook."



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- B. Mockups: Build mockups to demonstrate aesthetic effects and set quality standards for fabrication and installation.
  - 1. Build mockup of typical gutter, fascia, fascia trim, apron flashing, approximately 48 inches (1200 mm) long, including supporting construction cleats, seams, attachments, underlayment, and accessories.
  - 2. Approval of mockups is for other material and construction qualities specifically approved by Commissioner in writing.
  - 3. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless such deviations are specifically approved by Commissioner in writing.
  - 4. Approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.
  
- C. Preinstallation Conference: Conduct conference at Project site to comply with requirements in "DDC General Conditions."
  - 1. Meet with City of New York, Commissioner, if applicable, Installer, and installers whose work interfaces with or affects sheet metal flashing and trim including installers of roofing materials, roof accessories, unit skylights, and roof-mounted equipment.
  - 2. Review methods and procedures related to sheet metal flashing and trim.
  - 3. Examine substrate conditions for compliance with requirements, including flatness and attachment to structural members.
  - 4. Document proceedings, including corrective measures and actions required, and furnish copy of record to each participant.

#### 1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver sheet metal flashing materials and fabrications undamaged. Protect sheet metal flashing and trim materials and fabrications during transportation and handling.
- B. Unload, store, and install sheet metal flashing materials and fabrications in a manner to prevent bending, warping, twisting, and surface damage.
- C. Stack materials on platforms or pallets, covered with suitable weathertight and ventilated covering. Do not store sheet metal flashing and trim materials in contact with other materials that might cause staining, denting, or other surface damage.

#### 1.7 COORDINATION

- A. Coordinate installation of sheet metal flashing and trim with interfacing and adjoining construction to provide a leakproof, secure, and noncorrosive installation.

#### 1.8 WARRANTY

- A. Sheet Metal Flashing and Trim: Provide written 5 year material warranty issued by the membrane manufacturer upon completion of the work.



## PART 2 - PRODUCTS

### 2.1 MANUFACTURERS

- A. In other Part 2 articles where titles below introduce lists, the following requirements apply to product selection:
  - 1. Products: Subject to compliance with requirements, provide one of the products specified or an approved equal.
  - 2. Manufacturers: Subject to compliance with requirements, provide products by one of the manufacturers specified or an approved equal.

### 2.2 SHEET METALS

- A. For use in locations within existing historic masonry: For concealed applications such as floor levels, sills, lintels and spandrel beams use minimum 10 oz. Copper. Where exposed use 16 oz. Copper. Copper Sheet: ASTM B 370, Temper H00 or H01, cold-rolled copper sheet.
- B. For use in locations where corrosion may occur, close to the ground or where dissimilar metals are present: Stainless-Steel Sheet: ASTM A 240/A 240M, Type 304. For concealed applications minimum .015" or .018" stainless steel, or 10 oz. copper. Where exposed use minimum .015" or .018" stainless steel or 16oz. Copper.
  - 1. Finish: No. 2D (dull, cold rolled) or 4 (fine reflective, polished directional satin).
- C. For flashings in through wall locations and other miscellaneous flashings refer to part 2.5.

### 2.3 UNDERLAYMENT MATERIALS

- A. Polyethylene Sheet: 6-mil- (0.15-mm-) thick polyethylene sheet complying with ASTM D 4397.
- B. Felts: ASTM D 226, Type II (No. 30), asphalt-saturated organic felt, nonperforated.
- C. Slip Sheet: Rosin-sized paper, minimum 3 lb/100 sq. ft. (0.16 kg/sq. m).

### 2.4 MISCELLANEOUS MATERIALS

- A. General: Provide materials and types of fasteners, solder, welding rods, protective coatings, separators, sealants, and other miscellaneous items as required for complete sheet metal flashing and trim installation.
- B. Fasteners: Wood screws, annular threaded nails, self-tapping screws, self-locking rivets and bolts, and other suitable fasteners designed to withstand design loads.



1. Nails for Copper Sheet: Copper or hardware bronze, 0.109 inch (2.8 mm) minimum and not less than 7/8 inch (22 mm) long, barbed with large head.
  2. Exposed Fasteners: Heads matching color of sheet metal by means of plastic caps or factory-applied coating.
  3. Fasteners for Flashing and Trim: Blind fasteners or self-drilling screws, gasketed, with hex washer head.
  4. Blind Fasteners: High-strength stainless-steel rivets.
  5. Spikes and Ferrules: Same material as gutter; with spike with ferrule matching internal gutter width.
- C. Solder for Copper: ASTM B 32, Grade Sn50, 50 percent tin and 50 percent lead.
- D. Solder for Stainless Steel: ASTM B 32, Grade Sn60, with acid flux of type recommended by stainless-steel sheet manufacturer.
- E. Sealing Tape: Pressure-sensitive, 100 percent solids, polyisobutylene compound sealing tape with release-paper backing. Provide permanently elastic, nonsag, nontoxic, nonstaining tape.
- F. Elastomeric Sealant: ASTM C 920, elastomeric polyurethane polymer sealant; of type, grade, class, and use classifications required to seal joints in sheet metal flashing and trim and remain watertight.
- G. Butyl Sealant: ASTM C 1311, single-component, solvent-release butyl rubber sealant, polyisobutylene plasticized, heavy bodied for hooked-type expansion joints with limited movement.
- H. Epoxy Seam Sealer: Two-part, noncorrosive, aluminum seam-cementing compound, recommended by aluminum manufacturer for exterior nonmoving joints, including riveted joints.
- I. Bituminous Coating: Cold-applied asphalt mastic, SSPC-Paint 12, compounded for 15-mil (0.4-mm) dry film thickness per coat. Provide inert-type noncorrosive compound free of asbestos fibers, sulfur components, and other deleterious impurities.

## 2.5 MANUFACTURED SHEET METAL FLASHING AND TRIM

- A. Through-Wall Ribbed Sheet Metal Flashing: Manufacture through-wall sheet metal flashing for embedment in masonry with ribs at 3-inch (75-mm) intervals along length of flashing to provide an integral mortar bond. Manufacture through-wall flashing with snaplock receiver on exterior face to receive counterflashing. All thru-wall flashings shall be the three-way bond interlocking type. Flashings shall be formed to provide a mechanical bond in the mortar bed in all three directions. Bonding features shall consist of 3/16" high undercut sawtooth ribs spaced at not more than 3" intervals. Use minimum .015" or .018" stainless steel, or 10 oz. copper for fully concealed flashings and minimum 015" or .018" stainless steel or 16oz.



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- B. Copper for flashings that are exposed. Set flashings with a thin bed of mortar below and above with end joints overlapping not less than 1-1/2". Furnish and install where shown on the drawings and in strict accordance with the manufacturer's recommendations.
1. Copper: 10 oz. (0.34 mm thick) minimum for fully concealed flashing; 16 oz. (0.55 mm thick) elsewhere.
    - a. Products:
      - 1) Advanced Building Products Inc.; Cop-R-Loc Interlocking Flashing.
      - 2) Cheney Flashing Company, Inc.; Cheney Flashing (Dovetail).
      - 3) Dur-O-Wal, Dayton Superior Corporation; Polytite Copper Flashing.
      - 4) York Manufacturing, Inc.; Cop-R-Loc Interlocking Flashing.
      - 5) Other approved equal.
    2. Stainless Steel: 0.0156 inch (0.4 mm) thick.
      - a. Products:
        - 1) Cheney Flashing Company, Inc.; Cheney Flashing (Dovetail).
        - 2) Keystone Flashing Company, Inc.; Keystone Three-Way Interlocking Thruwall Flashing.
        - 3) Other approved equal.
  - C. Reglets: Units of type, material, and profile indicated, formed to provide secure interlocking of separate reglet and counterflashing pieces, and compatible with flashing indicated [with factory-mitered and -welded corners and junctions].
    1. Available Manufacturers:
      - a. Cheney Flashing Company, Inc.
      - b. Fry Reglet Corporation.
      - c. Heckmann Building Products Inc.
      - d. Other approved equal.
    2. Material: Stainless steel, 0.0187 inch (0.5 mm) thick, Copper, 16 oz./sq. ft. (0.55 mm thick), Lead-coated copper, 17.2 oz./sq. ft. (0.60 mm thick), Aluminum, 0.024 inch (0.6 mm) thick, depending on location and application.
    3. Concrete Type: Provide temporary closure tape to keep reglet free of concrete materials, special fasteners for attaching reglet to concrete forms, and guides to ensure alignment of reglet section ends.
    4. Masonry Type: Provide with offset top flange for embedment in masonry mortar joint.



5. Flexible Flashing Retainer: Provide resilient plastic or rubber accessory to secure flexible flashing in reglet where clearance does not permit use of standard metal counterflashing or where Drawings show reglet without metal counterflashing.
6. Counterflashing Wind-Restraint Clips: Provide clips to be installed before counterflashing to prevent wind uplift of counterflashing lower edge.

## 2.6 FABRICATION, GENERAL

- A. General: Custom fabricate sheet metal flashing and trim to comply with recommendations in SMACNA's "Architectural Sheet Metal Manual" that apply to design, dimensions, metal, and other characteristics of item indicated. Shop fabricate items where practicable. Obtain field measurements for accurate fit before shop fabrication.
- B. Fabricate sheet metal flashing and trim in thickness or weight needed to comply with performance requirements, but not less than that specified for each application and metal.
- C. Fabricate sheet metal flashing and trim without excessive oil canning, buckling, and tool marks and true to line and levels indicated, with exposed edges folded back to form hems.
  1. Seams for Aluminum: Fabricate nonmoving seams with flat-lock seams. Form seams and seal with epoxy seam sealer. Rivet joints for additional strength.
  2. Seams for Other Than Aluminum: Fabricate nonmoving seams in accessories with flat-lock seams. Tin edges to be seamed, form seams, and solder.
- D. Sealed Joints: Form nonexpansion but movable joints in metal to accommodate elastomeric sealant to comply with SMACNA recommendations.
- E. Expansion Provisions: Where lapped or bayonet-type expansion provisions in the Work cannot be used, form expansion joints of intermeshing hooked flanges, not less than 1 inch (25 mm) deep, filled with butyl sealant concealed within joints.
- F. Conceal fasteners and expansion provisions where possible on exposed-to-view sheet metal flashing and trim, unless otherwise indicated.
- G. Fabricate cleats and attachment devices from same material as accessory being anchored or from compatible, noncorrosive metal.
  1. Thickness: As recommended by SMACNA's "Architectural Sheet Metal Manual" and FMG Loss Prevention Data Sheet 1-49 for application but not less than thickness of metal being secured.

## 2.7 LOW-SLOPE ROOF SHEET METAL FABRICATIONS

- A. Roof Edge Flashing and Fascia Caps: Fabricate in minimum 96-inch- (2400-mm-) long, but not exceeding 10-foot- (3-m-) long, sections. Furnish with 6-inch- (150-mm-) wide joint cover plates.



1. Joint Style: Lap, 4 inches (100 mm) wide.
  2. Fabricate with scuppers spaced 10 feet (3 m) apart, of dimensions required with 4-inch- (100-mm-) wide flanges and base extending 4 inches (100 mm) beyond cant or tapered strip into field of roof. Fasten gravel guard angles to base of scupper.
- B. Roof and Roof to Wall Transition and Roof to Sheet Metal Roof Edging Transition Expansion-Joint Cover: Fabricate from the following material:
1. Copper: 24 oz./sq. ft. (0.82 mm thick)
  2. Stainless Steel: 0.0250 inch (0.65 mm) thick.
- C. Base Flashing: Fabricate from the following materials as indicated in the Drawings:
1. Copper: 24 oz./sq. ft. (0.82 mm thick)
  2. Stainless Steel: 0.0250 inch (0.65 mm) thick.
  3. Bituminous base flashing, 50 mil minimum.
- D. Counterflashing: As indicated in Part 2.5.
- E. Roof-Penetration Flashing: Provide non corrosive flashing compatible with adjacent metals. Refer to Part 2.2 above.

## 2.8 FINISHES

- A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.
- B. Protect mechanical and painted 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 substrates, areas, and conditions, with Installer present, to verify actual locations, dimensions and other conditions affecting performance of work.



1. Verify that substrate is sound, dry, smooth, clean, sloped for drainage, and securely anchored.
2. Proceed with installation only after unsatisfactory conditions have been corrected.

### 3.2 INSTALLATION, GENERAL

- A. General: Anchor sheet metal flashing and trim and other components of the Work securely in place, with provisions for thermal and structural movement. Use fasteners, solder, welding rods, protective coatings, separators, sealants, and other miscellaneous items as required to complete sheet metal flashing and trim system.
  1. Torch cutting of sheet metal flashing and trim is not permitted.
- B. Metal Protection: Where dissimilar metals will contact each other or corrosive substrates, protect against galvanic action by painting contact surfaces with bituminous coating or by other permanent separation as recommended by fabricator or manufacturers of dissimilar metals.
  1. Coat side of uncoated aluminum, stainless-steel and lead sheet metal flashing and trim with bituminous coating where flashing and trim will contact wood, ferrous metal, or cementitious construction.
  2. Underlayment: Where installing metal flashing directly on cementitious or wood substrates, install a course of felt underlayment and cover with a slip sheet or install a course of polyethylene underlayment.
  3. Bed flanges in thick coat of asphalt roofing cement where required for waterproof performance.
- C. Install exposed sheet metal flashing and trim without excessive oil canning, buckling, and tool marks.
- D. Install sheet metal flashing and trim true to line and levels indicated. Provide uniform, neat seams with minimum exposure of solder, welds, and butyl sealant.
- E. Install sheet metal flashing and trim to fit substrates and to result in watertight performance. Verify shapes and dimensions of surfaces to be covered before fabricating sheet metal.
  1. Space cleats not more than 12 inches (300 mm) apart. Anchor each cleat with two fasteners. Bend tabs over fasteners.
- F. Expansion Provisions: Provide for thermal expansion of exposed flashing and trim. Space movement joints at a maximum of 10 feet (3 m) with no joints allowed within 24 inches (600 mm) of corner or intersection. Where lapped or bayonet-type expansion provisions cannot be used or would not be sufficiently watertight, form expansion joints of intermeshing hooked flanges, not less than 1 inch (25 mm) deep, filled with butyl sealant concealed within joints.
- G. Fasteners: Use fasteners of sizes that will penetrate substrate not less than 1-1/4 inches (32 mm) for nails and not less than 3/4 inch (19 mm) for wood screws.





1. Galvanized or Prepainted, Metallic-Coated Steel: Use stainless-steel fasteners.
  2. Aluminum: Use aluminum or stainless-steel fasteners.
  3. Copper Use copper or stainless-steel fasteners.
  4. Stainless Steel: Use stainless-steel fasteners.
- H. Seal joints with elastomeric or butyl sealant as required for watertight construction.
1. Where sealant-filled joints are used, embed hooked flanges of joint members not less than 1 inch (25 mm) into sealant. Form joints to completely conceal sealant. When ambient temperature at time of installation is moderate, between 40 and 70 deg F (4 and 21 deg C), set joint members for 50 percent movement either way. Adjust setting proportionately for installation at higher ambient temperatures. Do not install sealant-type joints at temperatures below 40 deg F (4 deg C).
- I. Soldered Joints: Clean surfaces to be soldered, removing oils and foreign matter. Pretin edges of sheets to be soldered to a width of 1-1/2 inches (38 mm) except where pretinned surface would show in finished Work.
1. Stainless-Steel Soldering: Pretin edges of uncoated sheets to be soldered using solder recommended for stainless steel and phosphoric acid flux. Promptly wash off acid flux residue from metal after soldering.
  2. Copper Soldering: Tin uncoated copper surfaces at edges of sheets using solder recommended for copper work.
  3. Where surfaces to be soldered are lead coated, do not tin edges, but wire brush lead coating before soldering.
  4. Lead-Coated Copper Soldering: Wire brush edges of sheets before soldering.
  5. Do not use open-flame torches for soldering. Heat surfaces to receive solder and flow solder into joints. Fill joints completely. Completely remove flux and spatter from exposed surfaces.

### 3.3 ROOF DRAINAGE SYSTEM INSTALLATION

- A. General: Install sheet metal roof drainage items to produce complete roof drainage system according to SMACNA recommendations and as indicated. Coordinate installation of roof perimeter flashing with installation of roof drainage system.
- B. Hanging Gutters: Join sections with riveted and soldered joints or with lapped joints sealed with butyl sealant. Provide for thermal expansion. Attach gutters at eave or fascia to firmly anchored gutter brackets and straps spaced not more than 36 inches (900 mm) apart. Provide end closures and seal watertight with sealant. Slope to downspouts.
1. Fasten gutter spacers to front and back of gutter.
  2. Loosely lock straps to front gutter bead and anchor to roof deck.
  3. Anchor and loosely lock back edge of gutter to continuous cleat, eave or apron flashin.
  4. Anchor back of gutter that extends onto roof deck with cleats spaced not more than 24 inches (600 mm) apart.
  5. Anchor gutter with spikes and ferrules spaced not more than 24 inches (600 mm) apart.



6. Install gutter with expansion joints at locations indicated but not exceeding 50 feet (15.24 m) apart. Install expansion joint caps.
  7. Install continuous gutter screens on gutters with noncorrosive fasteners, removable or hinged to swing open for cleaning gutters.
- C. Downspouts: Join sections with 1-1/2-inch (38-mm) telescoping joints. Provide fasteners designed to hold downspouts securely 1 inch (25 mm) away from walls; locate fasteners at top and bottom and at approximately 60 inches (1500 mm) o.c. in between.
1. Provide elbows at base of downspout to direct water away from building.
  2. Connect downspouts to underground drainage system indicated.
- D. Conductor Heads: Anchor securely to wall with elevation of conductor head rim 1 inch (25 mm) below scupper or gutter discharge.
- E. Expansion-Joint Covers: Install expansion-joint covers at locations and of configuration indicated. Lap joints a minimum of 4 inches (100 mm) in direction of water flow.
- F. Splash Pans: Install where downspouts discharge on low-sloped roofs. Set in butyl sealant compatible with roofing membrane.

### 3.4 ROOF FLASHING INSTALLATION

- A. General: Install sheet metal roof flashing and trim to comply with performance requirements, sheet metal manufacturer's written installation instructions, and SMACNA's "Architectural Sheet Metal Manual." Provide concealed fasteners where possible, set units true to line, and level as indicated. Install work with laps, joints, and seams that will be permanently watertight.
- B. Roof Edge Flashing: Anchor to resist uplift and outward forces according to recommendations in FMG Loss Prevention Data Sheet 1-49 for specified wind zone and as indicated.
1. Interlock bottom edge of roof edge flashing with continuous cleats anchored to substrate at 24-inch (600-mm) or 16-inch (400-mm) centers.
- C. Copings: Anchor to resist uplift and outward forces according to recommendations in FMG Loss Prevention Data Sheet 1-49 for specified wind zone and as indicated.
1. Interlock exterior bottom edge of coping with continuous cleats anchored to substrate at 24-inch (600-mm) or 16-inch (400-mm) centers to suit location and connection to existing construction.
  2. Anchor interior leg of coping with screw fasteners and washers at 24-inch (600-mm), 20-inch (500-mm) or 18-inch (450-mm) centers to suit location and connection to existing construction.



- D. Pipe or Post Counterflashing: Install counterflashing umbrella with close-fitting collar with top edge flared for butyl sealant, extending a minimum of 4 inches (100 mm) over base flashing. Install stainless-steel draw band and tighten.
- E. Counterflashing: Coordinate installation of counterflashing with installation of base flashing. Insert counterflashing in reglets or receivers and fit tightly to base flashing. Extend counterflashing 4 inches (100 mm) over base flashing. Lap counterflashing joints a minimum of 4 inches (100 mm) and bed with butyl sealant.
  - 1. Secure in a waterproof manner by means of snap-in installation and sealant or lead wedges and sealant, interlocking folded seam or blind rivets and sealant, anchor and washer at 36-inch (900-mm) centers to suit location and connection to existing construction.
- F. Roof-Penetration Flashing: Coordinate installation of roof-penetration flashing with installation of roofing and other items penetrating roof. Install flashing as follows:
  - 1. Turn lead flashing down inside vent piping, being careful not to block vent piping with flashing.
  - 2. Seal with butyl sealant and clamp flashing to pipes penetrating roof except for lead flashing on vent piping.

### 3.5 WALL FLASHING INSTALLATION

- A. General: Install sheet metal wall flashing to intercept and exclude penetrating moisture according to SMACNA recommendations and as indicated. Coordinate installation of wall flashing with installation of wall-opening components such as windows, doors, and louvers.
- B. Openings Flashing in Frame Construction: Install continuous head, sill, jamb, and similar flashings to extend 4 inches (100 mm) beyond wall openings.

### 3.6 MISCELLANEOUS FLASHING INSTALLATION

- A. Overhead-Piping Safety Pans: Suspend pans from pipe and install drain line to plumbing waste or drain line.
- B. Equipment Support Flashing: Coordinate installation of equipment support flashing with installation of roofing and equipment. Weld or seal flashing with butyl sealant to equipment support member.

### 3.7 CLEANING AND PROTECTION

- A. Clean exposed metal surfaces of substances that interfere with uniform oxidation and weathering.
- B. Clean and neutralize flux materials. Clean off excess solder and sealants.



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- C. Remove temporary protective coverings and strippable films as sheet metal flashing and trim are installed. On completion of installation, clean finished surfaces, including removing unused fasteners, metal filings, pop rivet stems, and pieces of flashing. Maintain in a clean condition during construction.
  
- D. Replace sheet metal flashing and trim that have been damaged or that have deteriorated beyond successful repair by finish touchup or similar minor repair procedures.

**END OF SECTION 076200**



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## SECTION 078410

### PENETRATION FIRESTOPPING

#### PART 1 - 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 through-penetration firestop systems for penetrations through fire-resistance-rated constructions, including both empty openings and openings containing penetrating items.

##### 1.3 PERFORMANCE REQUIREMENTS

- A. General: For penetrations through fire-resistance-rated constructions, including both empty openings and openings containing penetrating items, provide through-penetration firestop systems that are produced and installed to resist spread of fire according to requirements indicated, resist passage of smoke and other gases, and maintain original fire-resistance rating of construction penetrated.
- B. Rated Systems: Provide through-penetration firestop systems with the following ratings determined per UL 1479:
  - 1. F-Rated Systems: Provide through-penetration firestop systems with F-ratings, but not less than that equaling or exceeding fire-resistance rating of constructions penetrated.
  - 2. T-Rated Systems: For the following conditions, provide through-penetration firestop systems with T-ratings indicated, as well as F-ratings, where systems protect penetrating items exposed to potential contact with adjacent materials in occupiable floor areas:
    - a. Penetrations located outside wall cavities or enclosed spaces.
    - b. Penetrations located outside fire-resistance-rated shaft enclosures.
  - 3. L-Rated Systems: Where through-penetration firestop systems are indicated in smoke barriers, provide through-penetration firestop systems with L-ratings of not more than 3.0



cfm/sq. ft (0.01524cu. m/s x sq. m) at both ambient temperatures and 400 deg F (204 deg C).

- C. For through-penetration firestop systems exposed to view, traffic, moisture, and physical damage, provide products that, after curing, do not deteriorate when exposed to these conditions both during and after construction.
  - 1. For piping penetrations for plumbing and wet-pipe sprinkler systems, provide moisture-resistant through-penetration firestop systems.
  - 2. For penetrations involving insulated piping, provide through-penetration firestop systems not requiring removal of insulation.
- D. For through-penetration firestop systems exposed to view, provide products with flame-spread and smoke-developed indexes of less than 25 and 450, respectively, as determined per ASTM E 84.

#### 1.4 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Shop Drawings: For each through-penetration firestop system, show each type of construction condition penetrated, relationships to adjoining construction, and type of penetrating item. Include firestop design designation of qualified testing and inspecting agency that evidences compliance with requirements for each condition indicated.
  - 1. Submit documentation, including illustrations, from a qualified testing and inspecting agency that is applicable to each through-penetration firestop system configuration for construction and penetrating items.
  - 2. Where Project conditions require modification to a qualified testing and inspecting agency's illustration for a particular through-penetration firestop condition, submit illustration, with modifications marked, approved by through-penetration firestop system manufacturer's fire-protection engineer as an engineering judgment or equivalent fire-resistance-rated assembly.
- C. Through-Penetration Firestop System Schedule: Indicate locations of each through-penetration firestop system, along with the following information:
  - 1. Types of penetrating items.
  - 2. Types of constructions penetrated, including fire-resistance ratings and, where applicable, thicknesses of construction penetrated.
  - 3. Through-penetration firestop systems for each location identified by firestop design designation of qualified testing and inspecting agency. Specific systems shall not reduce the fire resistance/separation rating of adjacent construction as indicated.
- D. Qualification Data: For Installer.



- E. Product Test Reports: From a qualified testing agency indicating through-penetration firestop system complies with requirements, based on comprehensive testing of current products.

#### 1.5 QUALITY ASSURANCE

- A. Installer Qualifications: A firm that has been approved by FMG according to FMG 4991, "Approval of Firestop Contractors", or an approved equal agency.
- B. Installer Qualifications: A firm experienced in installing through-penetration firestop systems similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful performance.
- C. Installation Responsibility: Assign installation of through-penetration firestop systems in Project to a single qualified installer.
- D. Source Limitations: Obtain through-penetration firestop systems, for each kind of penetration and construction condition indicated, through one source from a single manufacturer.
- E. Fire-Test-Response Characteristics: Provide through-penetration firestop systems that comply with the following requirements and those specified in Part 1 "Performance Requirements" Article:
  - 1. Firestopping tests are performed by a qualified testing and inspecting agency. A qualified testing and inspecting agency is UL, or another agency performing testing and follow-up inspection services for firestop systems acceptable to authorities having jurisdiction.
  - 2. Through-penetration firestop systems are identical to those tested per testing standard referenced in "Part 1 Performance Requirements" Article. Provide rated systems complying with the following requirements:
    - a. Through-penetration firestop system products bear classification marking of qualified testing and inspecting agency.
    - b. Through-penetration firestop systems correspond to those indicated by reference to through-penetration firestop system designations listed by the following:
      - 1) UL in its "Fire Resistance Directory."

#### 1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver through-penetration firestop system products to Project site in original, unopened containers or packages with intact and legible manufacturers' labels identifying product and manufacturer, date of manufacture, lot number, shelf life if applicable, qualified testing and inspecting agency's classification marking applicable to Project, curing time, and mixing instructions for multicomponent materials.
- B. Store and handle materials for through-penetration firestop systems to prevent their deterioration or damage due to moisture, temperature changes, contaminants, or other causes.





## 1.7 PROJECT CONDITIONS

- A. Environmental Limitations: Do not install through-penetration firestop systems when ambient or substrate temperatures are outside limits permitted by through-penetration firestop system manufacturers or when substrates are wet due to rain, frost, condensation, or other causes.
- B. Ventilate through-penetration firestop systems per manufacturer's written instructions by natural means or, where this is inadequate, forced-air circulation.

## 1.8 COORDINATION

- A. Coordinate construction of openings and penetrating items to ensure that through-penetration firestop systems are installed according to specified requirements.
- B. Coordinate sizing of sleeves, openings, core-drilled holes, or cut openings to accommodate through-penetration firestop systems.

Do not cover up through-penetration firestop system installations that will become concealed behind other construction until each installation has been examined by inspecting agency and building inspector, if required by authorities having jurisdiction.

## 1.8 WARRANTY

- A. Penetration Firestopping: Provide written 5 year material warranty issued by the membrane manufacturer upon completion of the work.

## PART 2 - PRODUCTS

### 2.1 MANUFACTURERS

- A. Available Products: Subject to compliance with requirements, through-penetration firestop systems that may be incorporated into the Work include, but are not limited to systems that are produced by one of the following manufacturers: Products shall bear the UL classification mark and shall not reduce the fire separation rating

1. A/D Fire Protection Systems Inc.
2. Grace, W. R. & Co. - Conn.
3. Hilti, Inc.
4. Johns Manville.
5. Nelson Firestop Products.
6. NUCO Inc.
7. RectorSeal Corporation (The).
8. Specified Technologies Inc.
9. 3M; Fire Protection Products Division.



10. Tremco; Sealant/Weatherproofing Division.
11. USG Corporation.
12. Other approved equal.

## 2.2 FIRESTOPPING, GENERAL

- A. **Compatibility:** Provide through-penetration firestop systems that are compatible with one another; with the substrates forming openings; with the fire resistance rated assemblies of adjacent construction; and with the items, if any, penetrating through-penetration firestop systems, under conditions of service and application, as demonstrated by through-penetration firestop system manufacturer based on testing and field experience.
- B. **Accessories:** Provide components for each through-penetration firestop system that are needed to install fill materials and to comply with Part 1 "Performance Requirements" Article. Use only components specified by through-penetration firestop system manufacturer and approved by qualified testing and inspecting agency for firestop systems indicated.

## 2.3 FILL MATERIALS

- A. **General:** Provide through-penetration firestop systems containing the types of fill materials referencing the types of materials described in this Article. Fill materials are those referred to in directories of referenced testing and inspecting agencies as "fill," "void," or "cavity" materials.
- B. **Cast-in-Place Firestop Devices:** Factory-assembled devices for use in cast-in-place concrete floors and consisting of an outer metallic sleeve lined with an intumescent strip, a radial extended flange attached to one end of the sleeve for fastening to concrete formwork, and a neoprene gasket.
- C. **Latex Sealants:** Single-component latex formulations that after cure do not re-emulsify during exposure to moisture.
- D. **Firestop Devices:** Factory-assembled collars formed from galvanized steel and lined with intumescent material sized to fit specific diameter of penetrant.
- E. **Intumescent Composite Sheets:** Rigid panels consisting of aluminum-foil-faced elastomeric sheet bonded to galvanized steel sheet.
- F. **Intumescent Putties:** Nonhardening dielectric, water-resistant putties containing no solvents, inorganic fibers, or silicone compounds.
- G. **Intumescent Wrap Strips:** Single-component intumescent elastomeric sheets with aluminum foil on one side.
- H. **Mortars:** Prepackaged dry mixes consisting of a blend of inorganic binders, hydraulic cement, fillers, and lightweight aggregate formulated for mixing with water at Project site to form a nonshrinking, homogeneous mortar.



- I. Pillows/Bags: Reusable heat-expanding pillows/bags consisting of glass-fiber cloth cases filled with a combination of mineral-fiber, water-insoluble expansion agents, and fire-retardant additives.
- J. Silicone Foams: Multicomponent, silicone-based liquid elastomers that, when mixed, expand and cure in place to produce a flexible, nonshrinking foam.
- K. Silicone Sealants: Single-component, silicone-based, neutral-curing elastomeric sealants of grade indicated below:
  - 1. Grade: Pourable (self-leveling) formulation for openings in floors and other horizontal surfaces, and nonsag formulation for openings in vertical and other surfaces requiring a nonslumping, gunnable sealant, unless indicated firestop system limits use to nonsag grade for both opening conditions.

#### 2.4 MIXING

- A. For any products requiring mixing before application, comply with through-penetration firestop system manufacturer's written instructions for accurate proportioning of materials, water (if required), type of mixing equipment, selection of mixer speeds, mixing containers, mixing time, and other items or procedures needed to produce products of uniform quality with optimum performance characteristics for application indicated.

### PART 3 - EXECUTION

#### 3.1 EXAMINATION

- A. Examine substrates and conditions, with Installer present, for compliance with requirements for opening configurations, penetrating items, substrates, and other conditions affecting performance of work.
  - 1. Proceed with installation only after unsatisfactory conditions have been corrected.

#### 3.2 PREPARATION

- A. Surface Cleaning: Clean out openings immediately before installing through-penetration firestop systems to comply with firestop system manufacturer's written instructions and with the following requirements:
  - 1. Remove from surfaces of opening substrates and from penetrating items foreign materials that could interfere with adhesion of through-penetration firestop systems.
  - 2. Clean opening substrates and penetrating items to produce clean, sound surfaces capable of developing optimum bond with through-penetration firestop systems. Remove loose particles remaining from cleaning operation.
  - 3. Remove laitance and form-release agents from concrete.



- B. Priming: Prime substrates where recommended in writing by through-penetration firestop system manufacturer using that manufacturer's recommended products and methods. Confine primers to areas of bond; do not allow spillage and migration onto exposed surfaces.
- C. Masking Tape: Use masking tape to prevent through-penetration firestop systems from contacting adjoining surfaces that will remain exposed on completion of Work and that would otherwise be permanently stained or damaged by such contact or by cleaning methods used to remove smears from firestop system materials. Remove tape as soon as possible without disturbing firestop system's seal with substrates.

### 3.3 THROUGH-PENETRATION FIRESTOP SYSTEM INSTALLATION

- A. General: Install through-penetration firestop systems to comply with Part 1 "Performance Requirements" Article and with firestop system manufacturer's written installation instructions and published drawings for products and applications indicated.
- B. Install forming/damming/backing materials and other accessories of types required to support fill materials during their application and in the position needed to produce cross-sectional shapes and depths required to achieve fire ratings indicated.
  - 1. After installing fill materials and allowing them to fully cure, remove combustible forming materials and other accessories not indicated as permanent components of firestop systems.
- C. Install fill materials for firestop systems by proven techniques to produce the following results:
  - 1. Fill voids and cavities formed by openings, forming materials, accessories, and penetrating items as required to achieve fire-resistance ratings indicated.
  - 2. Apply materials so they contact and adhere to substrates formed by openings and penetrating items.
  - 3. For fill materials that will remain exposed after completing Work, finish to produce smooth, uniform surfaces that are flush with adjoining finishes.

### 3.4 IDENTIFICATION

- A. Identify through-penetration firestop systems with preprinted metal or plastic labels. Attach labels permanently to surfaces adjacent to and within 6 inches (150 mm) of edge of the firestop systems so that labels will be visible to anyone seeking to remove penetrating items or firestop systems. Use mechanical fasteners for metal labels. For plastic labels, use self-adhering type with adhesives capable of permanently bonding labels to surfaces on which labels are placed and, in combination with label material, will result in partial destruction of label if removal is attempted. Include the following information on labels:
  - 1. The words "Warning - Through-Penetration Firestop System - Do Not Disturb. Notify Building Management of Any Damage."
  - 2. Contractor's name, address, and phone number.



3. Through-penetration firestop system designation of applicable testing and inspecting agency.
4. Date of installation.
  
5. Through-penetration firestop system manufacturer's name.
6. Installer's name.

### 3.5 FIELD QUALITY CONTROL

- A. Inspecting Agency: The City of New York will perform the special inspections for the work noted below:
  1. Firestop, Draftstop \* Fireblock systems BC 1704.25
- B. Where deficiencies are found, repair or replace through-penetration firestop systems so they comply with requirements.
- C. Proceed with enclosing through-penetration firestop systems with other construction only after inspection reports are issued and firestop installations comply with requirements.

### 3.6 CLEANING AND PROTECTING

- A. Clean off excess fill materials adjacent to openings as Work progresses by methods and with cleaning materials that are approved in writing by through-penetration firestop system manufacturers and that do not damage materials in which openings occur.
- B. Provide final protection and maintain conditions during and after installation that ensure that through-penetration firestop systems are without damage or deterioration at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, cut out and remove damaged or deteriorated through-penetration firestop systems immediately and install new materials to produce systems complying with specified requirements.

**END OF SECTION 078410**



## SECTION 081433

### STILE AND RAIL WOOD DOORS

#### PART 1 - GENERAL

##### 1.1 RELATED DOCUMENTS

- A. General: Provide fasteners of size and type indicated that comply with requirements specified in this article for material and manufacture.
- B. 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. Interior stile and rail Fire Rated wood doors.
  - 2. Fire Rated Wood Frames

- B. Related Sections include the following:

Division 8 section "Door Hardware"

##### 1.3 SUBMITTALS

- A. Product Data: For each type of door. Include details of construction, wood species.
  - 1. Include factory-finishing specifications.
- B. Shop Drawings: Indicate location, size, and hand of each door; elevation of each kind of door; construction details not covered in Product Data, including those for stiles, rails, panels, and moldings (sticking); and other pertinent data.
  - 1. Indicate dimensions and locations of mortises and holes for hardware.
  - 2. Indicate doors to be factory finished and finish requirements.



3. Indicate fire ratings for fire doors.
  4. Show adjacent construction. Indicate verification of existing dimensions and conditions of existing construction at locations of new Stile and rail doors.
- C. Samples for Initial Selection: For factory-finished doors.
- D. Samples for Verification: Finish sample with same wood species and paint colors proposed for field-finished doors.
- E. Product Certificates: Signed by door manufacturers.
- F. Warranty: Special warranty specified in this Section.

#### 1.4 QUALITY ASSURANCE

- A. Source Limitations: Obtain stile and rail wood doors through one source from a single manufacturer.
- B. The contractor or subcontractor performing the work of this section must, within the last five (5) consecutive years prior to the bid opening, have successfully completed in a timely fashion at least three (3) projects similar in scope and type to the required work, based on architectural style, construction method and materials and age of building for this particular project. One such prior project of the three must have involved a landmarked building, as officially designated by the City, State or federal government.
- C. Fabricator Qualifications: A firm experienced in producing architectural woodwork similar to that indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.
- D. Fire-Rated Door Frames, Sidelights, Borrowed Lights and Transoms: Provide fire-rated wood frames which are in compliance with regulatory requirements:
1. Fire-rated wood frames are identical in material and construction to units tested in door and frame assemblies per NFPA 252, UL 10, and UBC 7-2.
  2. Installed fire-rated wood frames comply with NFPA-80 requirements according to building code standards having local jurisdiction.
  3. Fire-rated wood frames shall meet UBC 7-2-97 or UL 10C requirements for positive pressure.
  4. All fire-rated frames will carry Underwriters Laboratories (UL).
- E. Quality Standard for Doors of Special Design and Construction: Comply with AWI's "Architectural Woodwork Quality Standards unless more stringent requirements are specified.
1. Architectural Woodwork Institute (AWI):
    - a. Quality Standards of Architectural Woodwork Institute, Eighth Edition.
  2. Woodwork Institute of California (WIC):
    - a. Quality Standards of the Woodwork Institute of California.
  3. American National Standards Institute (ANSI):
    - a. A115-W Series, Wood Door Hardware Standards.



1.5 DELIVERY, STORAGE, AND HANDLING

- A. Comply with requirements of referenced standard and manufacturer's written instructions.
- B. Package doors individually in opaque plastic bags or cardboard cartons.
- C. Mark each door on top and bottom edge with opening number used on Shop Drawings.

1.6 PROJECT CONDITIONS

- A. Environmental Limitations: Do not deliver or install doors 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 doors 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 43 and 70 percent during the remainder of the construction period.

1.7 WARRANTY

- A. Warranty: Manufacturer's standard form, signed by manufacturer, Installer, and Contractor, in which manufacturer agrees to repair or replace doors that are defective in materials or workmanship, and have warped (bow, cup, or twist) more than 1/4 inch in a 42-by-84-inch section.
  - 1. Warranty shall also include installation and finishing that may be required due to repair or replacement of defective doors.
  - 2. Warranty shall be in effect during the following period of time from date of Substantial Completion:
    - a. Interior Doors: One year

1.8 COORDINATION

- A. Coordinate sizes and locations of framing, blocking, furring, reinforcements, and other related units of Work specified in other Sections to ensure that interior frames can be supported and installed as indicated.





## PART 2 - PRODUCTS

### 2.1 MATERIALS

- A. General: Use only materials specified and that comply with referenced quality standards unless more stringent requirements are specified.
  - 1. Assemble exterior doors, including all components, with wet-use adhesives complying with ASTM D 5572 for finger joints and ASTM D 5751 for joints other than finger joints.

### 2.2 STILE AND RAIL DOORS OF SPECIAL DESIGN AND CONSTRUCTION

#### A. Manufacturers:

- 1. Algoma Hardwoods, Inc.
- 2. ETO Doors
- 3. Murphy and Co.
- 4. Eggers Industries; Architectural Door Division.
- 5. Maiman Company (The).
- 6. Pinecrest, Inc.
- 7. Westek Architectural Woodworking
- 8. Other Approved Equal.

#### B. Construction, General:

- 1. Grade of Doors for Opaque Finish: Custom.
- 2. Panel Designs: Drawings indicate panel designs. Do not modify intended aesthetic effects, as judged solely by Commissioner, except with Commissioner's approval. If modifications are proposed, submit comprehensive explanatory data to Commissioner for review.

#### C. Door Construction for Opaque Finish:

- 1. Stile and Rail Construction: Clear mahogany; may be edge glued for width and finger jointed.
- 2. Raised-Panel Construction: Clear mahogany, edge glued for width.

#### D. Interior Doors:

- 1. Basis-of-Design Product: Provide products by one of the manufacturer's listed in paragraph A above or an approved equal.
- 2. Stile and Rail Widths: As indicated.



3. Molding Profile: As indicated.
  4. Raised-Panel Thickness: Manufacturer's standard, but not less than 1-1/8 inches (29 mm). Indicate panel thickness in shop drawings. Subject to approval by Commissioner for consistency with the Drawings.
  5. Weatherstripping: Provide weather tight installation with shop installed weatherstripping at all sides of door frame and door bottom.
- E. Fabricate stile and rail wood doors in sizes indicated for Project-site fitting.
- F. 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 measurements of hardware mortises in metal frames to verify dimensions and alignment before factory machining.
- G. Interior Doors: Factory treat interior doors after fabrication with water-repellent preservative to comply with WDMA I.S.4. Flash top of out swinging doors with manufacturer's standard metal flashing.
- H. 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 according to NFPA 252
1. Temperature-Rise Limit: Where indicated, provide doors that have a maximum transmitted temperature end point of not more than 250 deg F above ambient after 30 minutes of standard fire-test exposure.
  2. Cores: Provide core specified or fire-resistant composite core as needed to provide fire-protection rating indicated.
  3. Blocking: Provide composite blocking approved for use in doors of fire-protection ratings indicated as needed to maintain WDMA performance level and eliminate through-bolting hardware.
  4. Edge Construction: Category B - intumescent applied to frames by door installer where required.
  5. Pairs: Provide fire-retardant stiles that are listed and labeled for applications indicated without formed-steel edges and astragals.
  6. Pairs: Provide formed-steel edges and astragals with intumescent seals as required.
    - a. Provide steel edges and astragals primed for field painting.
    - b. Provide veneer wrapped steel edges and astragals. Veneer shall be same specie as face.
    - c. Finish steel edges and astragals with baked enamel, color as selected from manufacturer's standard offering.
    - d. Provide stainless steel edges and astragals.
- I. Smoke- and Draft-Control Door Assemblies: Listed and labeled for smoke and draft control, based on testing according to UL 1784.

2.3 60-MINUTE FIRE-RATED FRAME:



- a. Type: 60-Minute Rated Frame.
- b. Fire Rating (ASTM E 119): 60 minutes.
- c. Pressure Testing Type: Positive.
- d. Provide frame structure, minimum 1-1/2-inch thick by 5-5/16-inch wide, complying with referenced construction requirements.
- e. Material: 1/8 inch thick resawn face (not veneered) with minimum 1/4 inch thick hardwood edges bonded to engineered core in accordance with ASTM D 5456.
- f. Wood Species and Cut: Mahogony. Specific gravity 0.42 at 12% moisture content.
- g. Classified: Underwriters Laboratories (UL)
- h. Fire clips not needed.

#### 2.4 MACHINING AND FITTING

- A. All wood frames shall be machined by the manufacturer for hinges, locks and all hardware requiring routing and mortising. Any required dados for frame assembly will be performed by the manufacturer prior to finishing.
  1. Machining will be performed with final hardware schedules, shop drawings, hardware templates and other essential information required to insure proper fit of doors, frames relite components and hardware.
  2. Machining tolerances will be in accordance with ANSI/WDMA I.S. 1-A1 1997.
  3. Fire-rated frames will be machined under observation and in strict accordance with the requirements of the listing agency.

#### 2.5 SOURCE QUALITY CONTROL

- A. Tests, Inspection: Provide Fire-Rated doors and frames clearly marked with the stamp or seal of listing agency.

### PART 3 - EXECUTION

#### 3.1 EXAMINATION

- A. Examine doors and substrates, with Installer present, for suitable conditions where wood stile and rail doors and fire-rated wood door frames will be installed.
  1. Verify that installed frames comply with indicated requirements for type, size, location, and swing characteristics and have been installed with plumb jambs and level heads.
  2. Reject doors with defects.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.



### 3.2 INSTALLATION

- A. Install fire-rated wood door frames level, plumb, true, and aligned with adjacent materials. Use concealed shims where necessary for alignment.
  - 1. Countersink fasteners, fill surface flush, and sand smooth.
- B. Hardware: For installation, see Division 8 Section "Door Hardware." For hardware specification, see hardware schedule.
- C. Install wood doors to comply with manufacturer's written instructions and with referenced quality standard, and as indicated.
  - 1. Install fire-rated doors in corresponding fire-rated frames according to NFPA 80.
- D. 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 with fire-rated doors. Machine doors for hardware. Seal cut surfaces after fitting and machining.
  - 1. Clearances: Provide 1/8 inch (3.2 mm) at heads, jambs, and between pairs of doors. Provide 1/8 inch (3.2 mm) from bottom of door to top of decorative floor finish or covering. Where threshold is shown or scheduled, provide 1/4 inch (6.4 mm) from bottom of door to top of threshold.
    - a. Comply with NFPA 80 for fire-rated doors.
  - 2. Bevel fire-rated doors 1/8 inch in 2 inches (3-1/2 degrees) on lock edge; trim stiles and rails only to extent permitted by labeling agency.
- E. Factory-Fitted Doors: Align in frames for uniform clearance at each edge.

### 3.3 ADJUSTING AND PROTECTING

- A. Operation: Rehang or replace doors that do not swing or operate freely.
- B. Finished Doors: Replace doors that are damaged or 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 081433**



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## SECTION 085200

### WOOD WINDOWS

#### PART 1 - 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. Section includes aluminum-clad wood windows.

##### 1.3 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project site.
  - 1. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
  - 2. Review, discuss, and coordinate the interrelationship of wood windows with other exterior wall components. Include provisions for anchoring, flashing, weeping, sealing perimeters, and protecting finishes.
  - 3. Review and discuss the sequence of work required to construct a watertight and weathertight exterior building envelope.
  - 4. Inspect and discuss the condition of substrate and other preparatory work performed by other trades.

##### 1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product.
  - 1. Include construction details, material descriptions, glazing and fabrication methods, dimensions of individual components and profiles, hardware, and finishes for wood windows.



- B. Shop Drawings: Include plans, elevations, sections, hardware, accessories, insect screens, operational clearances, and details of installation, including anchor, flashing, and sealant installation.
- C. Samples: For each exposed product and for each color specified, 2 by 4 inches (50 by 100 mm) in size.
- D. Samples for Initial Selection: For units with factory-applied color finishes.
  - 1. Include similar Samples of hardware and accessories involving color selection.
- E. Samples for Verification: For wood windows and components required, prepared on Samples of size indicated below:
  - 1. Exposed Finishes: 2 by 4 inches (50 by 100 mm).
  - 2. Exposed Hardware: Full-size units.
- F. Product Schedule: For wood windows. Use same designations indicated on Drawings.

#### 1.5 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For manufacturer and Installer.
- B. Product Test Reports: For each type of wood window, for tests performed by a qualified testing agency.
- C. Field quality-control reports.
- D. Sample Warranties: For manufacturer's warranties.

#### 1.6 QUALITY ASSURANCE

- A. The contractor or subcontractor performing the work of this section must, within the last five (5) consecutive years prior to the bid opening, have successfully completed in a timely fashion at least three (3) projects similar in scope and type to the required work, based on architectural style, construction method and materials and age of building for this particular project. One such prior project of the three must have involved a landmarked building, as officially designated by the City, State or federal government.”
- B. 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 mockup of typical wall area as shown on Drawings.



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Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Commissioner specifically approves such deviations in writing.

## 1.7 WARRANTY

A. **Manufacturer's Warranty:** Manufacturer agrees to repair or replace wood windows that fail in materials or workmanship within specified warranty period.

1. Failures include, but are not limited to, the following:
  - a. Failure to meet performance requirements.
  - b. Structural failures including excessive deflection, water leakage, and air infiltration.
  - c. Faulty operation of movable sash and hardware.
  - d. Deterioration of materials and finishes beyond normal weathering.
  - e. Failure of insulating glass.
2. Warranty Period:
  - a. Entire Window: 5 years from date of Substantial Completion.

## PART 2 - PRODUCTS

### 2.1 MANUFACTURERS

A. Aluminum-Clad Wood Windows:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
  - a. EAGLE Window & Door, Inc.; a subsidiary of Andersen Corporation.
  - b. Marvin Windows and Doors.
  - c. Parrett Windows and Doors
  - d. Or Approved Equal

### 2.2 WINDOW PERFORMANCE REQUIREMENTS

A. **Product Standard:** Comply with AAMA/WDMA/CSA 101/I.S.2/A440 for definitions and minimum standards of performance, materials, components, accessories, and fabrication unless more stringent requirements are indicated.





1. Window Certification: WDMA certified with label attached to each window.
- B. Performance Class and Grade: AAMA/WDMA/CSA 101/I.S.2/A440 as follows:
  1. Minimum Performance Class: LC.
  2. Minimum Performance Grade: 25.
- C. Thermal Transmittance: NFRC 100 maximum whole-window U-factor of 0.30 Btu/sq. ft. x h x deg F
- D. Windborne-Debris Resistance: Capable of resisting impact from windborne debris based on testing glazed windows identical to those specified, according to ASTM E 1886 and testing information in ASTM E 1996 and requirements of authorities having jurisdiction.

### 2.3 WOOD WINDOWS

- A. Operating Types: Provide the following operating types in locations indicated on Drawings:
  1. Casement: In-Swing and/or Out-Swing
  2. Double hung.
  3. Fixed.
- B. Frames and Sashes: Fine-grained wood lumber complying with AAMA/WDMA/CSA 101/I.S.2/A440; kiln dried to a moisture content of not more than 12 percent at time of fabrication; free of visible finger joints, blue stain, knots, pitch pockets, and surface checks larger than 1/32 inch (0.8 mm) deep by 2 inches (51 mm) wide; water-repellent preservative treated.
  1. Exterior Finish: Aluminum-clad wood.
    - a. Aluminum Finish: Manufacturer's standard high-performance teo-coat finish with 20 year system warranty.
    - b. Color: As selected by Commissioner from manufacturer's full range.
  2. Interior Finish: Manufacturer's standard factory-prime coat. Finish with Benjamin interior acrylic enamel.
    - a. Color: As selected by Commissioner from manufacturer's full range.
- C. Insulating-Glass Units: ASTM E 2190, certified through IGCC as complying with requirements of IGCC.
  1. Glass: ASTM C 1036, Type 1, Class 1, q3.
    - a. Tint: Clear.
    - b. Kind: Fully tempered where indicated on Drawings.



2. Lites: To match existing fro replacement windows. As shown on the drawings for new windows.
  3. Filling: Fill space between glass lites with argon.
- D. Glazing System: Manufacturer's standard factory-glazing system that produces weathertight seal.
- E. Hardware, General: Provide manufacturer's standard hardware fabricated from aluminum, stainless steel, carbon steel complying with AAMA 907, or other corrosion-resistant material compatible with adjacent materials; designed to smoothly operate, tightly close, and securely lock windows, and sized to accommodate sash weight and dimensions.
1. Exposed Hardware Color and Finish: As selected by Commissioner from manufacturer's full range.
- F. Projected Window Hardware:
1. Gear-Type Rotary Operators: Complying with AAMA 901 when tested according to ASTM E 405, Method A. Provide operators that function without requiring the removal of interior screens or using screen wickets.
    - a. Type and Style: As selected by Commissioner from manufacturer's full range of types and styles.
  2. Hinges: Manufacturer's standard type for sash weight and size indicated.
  3. Single-Handle Locking System: Operates positive-acting arms that pull sash into locked position. Provide one arm on sashes up to 29 inches (735 mm) tall and two arms on taller sashes.
  4. Limit Devices: Concealed support arms with adjustable, limited, hold-open limit devices designed to restrict sash opening.
    - a. Limit clear opening to 4 inches (100 mm) for ventilation; with custodial key release.
  5. Operator Stud Cover: Matching operator handle finish. Provide in locations where operator handle is removed for controlled access.  
Pole Operators: Tubular-shaped anodized aluminum; with rubber-capped lower end and standard push-pull hook at top to match hardware design; of sufficient length to operate window without reaching more than 60 inches (1500 mm) above floor; one pole operator and pole hanger per room that has operable windows more than 72 inches (1800 mm) above floor.
- G. Hung Window Hardware:



1. Counterbalancing Mechanism: Complying with AAMA 902, concealed, of size and capacity to hold sash stationary at any open position.
  2. Locks and Latches: Allow unobstructed movement of the sash across adjacent sash in direction indicated and operated from the inside only.
  3. Tilt Hardware: Releasing tilt latch allows sash to pivot about horizontal axis to facilitate cleaning exterior surfaces from the interior.
- H. Weather Stripping: Provide full-perimeter weather stripping for each operable sash unless otherwise indicated.
- I. Fasteners: Noncorrosive and compatible with window members, trim, hardware, anchors, and other components.
1. Exposed Fasteners: Do not use exposed fasteners to the greatest extent possible. For application of hardware, use fasteners that match finish hardware being fastened.

#### 2.4 INSECT SCREENS

- A. None Required.

#### 2.5 FABRICATION

- A. Fabricate wood windows in sizes indicated. Include a complete system for installing and anchoring windows.
- B. Glaze wood windows in the factory.
- C. Weather strip each operable sash to provide weathertight installation.
- D. Mullions: Provide mullions and cover plates, matching window units, complete with anchors for support to structure and installation of window units. Allow for erection tolerances and provide for movement of window units due to thermal expansion and building deflections. Provide mullions and cover plates capable of withstanding design wind loads of window units.
- E. Complete fabrication, assembly, finishing, hardware application, and other work in the factory to greatest extent possible. Disassemble components only as necessary for shipment and installation. Allow for scribing, trimming, and fitting at Project site.



### **PART 3 - EXECUTION**

#### **3.1 EXAMINATION**

- A. Examine openings, substrates, structural support, anchorage, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
- B. Verify rough opening dimensions, levelness of sill plate, and operational clearances.
- C. Examine wall flashings, vapor retarders, water and weather barriers, and other built-in components to ensure weathertight window installation.
- D. Proceed with installation only after unsatisfactory conditions have been corrected.

#### **3.2 INSTALLATION**

- A. Comply with manufacturer's written instructions for installing windows, hardware, accessories, and other components. For installation procedures and requirements not addressed in manufacturer's written instructions, comply with installation requirements in ASTM E 2112.
- B. Install windows level, plumb, square, true to line, without distortion, anchored securely in place to structural support, and in proper relation to wall flashing and other adjacent construction to produce weathertight construction.

#### **3.3 ADJUSTING, CLEANING, AND PROTECTION**

- A. Adjust operating sashes and hardware for a tight fit at contact points and weather stripping for smooth operation and weathertight closure.
- B. Clean exposed surfaces immediately after installing windows. Remove excess sealants, glazing materials, dirt, and other substances.
  - 1. Keep protective films and coverings in place until final cleaning.
- C. Remove and replace sashes if glass has been broken, chipped, cracked, abraded, or damaged during construction period.
- D. Protect window surfaces from contact with contaminating substances resulting from construction operations. If contaminating substances do contact window surfaces, remove contaminants immediately according to manufacturer's written instructions.

### **END OF SECTION 085200**



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Project Title: Center for the Women of New York  
Fort Totten, Bayside, NY 11359

WOOD WINDOWS  
085200 - 8



## SECTION 087110

### DOOR HARDWARE

#### PART 1 - 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. Commercial door hardware for the following:
    - a. Swinging doors.
    - b. Paired bifold panel assemblies
    - c. Balanced door entrances
    - d. Concealed doors
- B. Related Sections include the following:
1. Division 8 Section "Stile and Rail Wood Doors" for astragals provided as part of a fire-rated labeled assembly.

##### 1.3 SUBMITTALS

- A. Product Data: Include installation details, material descriptions, dimensions of individual components and profiles, and finishes.
- B. Shop Drawings: Installation details of each type of door hardware required.



- C. Samples for Initial Selection: Manufacturer's color charts consisting of units or sections of units showing the full range of colors, textures, and patterns available for each type of door hardware indicated.
- D. Samples: For exposed door hardware of each type indicated below, in specified finish, full size. Tag with full description for coordination with the Door Hardware Schedule. Submit samples before, or concurrent with, submission of the final Door Hardware Schedule.
1. Door Hardware: As follows:
    - a. Hinges.
    - b. Pivots.
    - c. Locks and latches.
    - d. Exit devices.
    - e. Cylinders and keys.
    - f. Operating trim.
    - g. Closers.
    - h. Protective trim.
    - i. Door gasketing.
    - j. Thresholds.
    - k. Concealed Hinges
    - l. Miscellaneous items.
  2. Samples will be returned to Contractor. Units that are acceptable and remain undamaged through submittal, review, and field comparison process may, after final check of operation, be incorporated into the Work, within limitations of keying requirements.
- E. Door Hardware Schedule: Prepared by or under the supervision of supplier, detailing fabrication and assembly of door hardware, as well as procedures and diagrams. Coordinate the final Door Hardware Schedule with doors, frames, and related work to ensure proper size, thickness, hand, function, and finish of door hardware.
1. Format: Comply with scheduling sequence and vertical format in DHI's "Sequence and Format for the Hardware Schedule."
  2. Organization: Organize the Door Hardware Schedule into door hardware sets indicating complete designations of every item required for each door or opening.
  3. Content: Include the following information:
    - a. Type, style, function, size, label, hand, and finish of each door hardware item.
    - b. Manufacturer of each item.
    - c. Fastenings and other pertinent information.
    - d. Location of each door hardware set, cross-referenced to Drawings, both on floor plans and in door and frame schedule.
    - e. Explanation of abbreviations, symbols, and codes contained in schedule.
    - f. Mounting locations for door hardware.



- g. Door and frame sizes and materials.
    - 1) Sequence of Operation: Include description of component functions that occur in the following situations: authorized person wants to enter; authorized person wants to exit; unauthorized person wants to enter; unauthorized person wants to exit.
  - 4. Submittal Sequence: Submit the final Door Hardware Schedule at earliest possible date, particularly where approval of the Door Hardware Schedule must precede fabrication of other work that is critical in the Project construction schedule. Include Product Data, Samples, Shop Drawings of other work affected by door hardware, and other information essential to the coordinated review of the Door Hardware Schedule.
  - F. Keying Schedule: Prepared by or under the supervision of supplier, detailing City of New York's final keying instructions for locks. Include schematic keying diagram and index each key set to unique door designations.
  - G. Product Certificates: Signed by manufacturers of electrified door hardware certifying that products furnished comply with requirements.
    - 1. Certify that door hardware approved for use on types and sizes of labeled fire doors complies with listed fire door assemblies.
  - H. Qualification Data: For firms and persons specified in "Quality Assurance" Article.
    - 1. Include lists of completed projects with project names and addresses of architects and owners, and other information specified.
  - I. Product Test Reports: Based on evaluation of comprehensive tests performed by manufacturer and witnessed by a qualified testing agency, indicating current products comply with requirements.
  - J. Maintenance Data: For each type of door hardware to include in maintenance manuals specified in DDC General Conditions.
  - K. Warranties: Special warranties specified in this Section.
- 1.4 QUALITY ASSURANCE
- A. Installer Qualifications: An experienced installer who has completed door hardware similar in material, design, and extent to that indicated for this Project and whose work has resulted in construction with a record of successful in-service performance.
  - B. Supplier Qualifications: Door hardware supplier with warehousing facilities in Project's vicinity and who is or employs a qualified Architectural Hardware Consultant, available during the course of the Work to consult with Contractor, Architect, and Owner about door hardware and keying.





1. Scheduling Responsibility: Preparation of door hardware and keying schedules.
- C. Source Limitations: Obtain each type and variety of door hardware from a single manufacturer, unless otherwise indicated.
  1. Provide electrified door hardware from same manufacturer as mechanical door hardware, unless otherwise indicated. Manufacturers that are listed to perform electrical modifications, by a testing and inspecting agency acceptable to authorities having jurisdiction, are acceptable.
- D. Regulatory Requirements: Comply with provisions of the following:
  1. Where indicated to comply with accessibility requirements, comply with New York City Local Lw 58 / 87 and ANSI A117.1, as follows:
    - a. Handles, Pulls, Latches, Locks, and other Operating Devices: Shape that is easy to grasp with one hand and does not require tight grasping, tight pinching, or twisting of the wrist.
    - b. Door Closers: Comply with the following maximum opening-force requirements indicated:
      - 1) Interior Hinged Doors: 5 lbf (22.2 N) applied perpendicular to door.
      - 2) Sliding or Folding Doors: 5 lbf (22.2 N) applied parallel to door at latch.
      - 3) Fire Doors: Minimum opening force allowable by authorities having jurisdiction.
    - c. Thresholds: Not more than 1/2 inch high. Bevel raised thresholds with a slope of not more than 1:2.
  2. NFPA 101: Comply with the following for means of egress doors:
    - a. Latches, Locks, and Exit Devices: Not more than 15 lbf (67 N) to release the latch. Locks shall not require the use of a key, tool, or special knowledge for operation.
    - b. Delayed-Egress Locks: Lock releases within 15 seconds after applying a force not more than 15 lbf (67 N) for not more than 3 seconds.
    - c. Door Closers: Not more than 30 lbf (133 N) to set door in motion and not more than 15 lbf (67 N) to open door to minimum required width.
    - d. Thresholds: Not more than 1/2 inch (13 mm) high.
  3. Electrified Door Hardware: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction.
- E. Fire-Rated Door Assemblies: Provide door hardware for assemblies complying with NFPA 80 that are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for fire ratings indicated, based on testing according to NFPA 252.
  1. Test Pressure: Test at atmospheric pressure.



F. Keying Conference: Conduct conference at Project site to comply with requirements in "DDC General Conditions". Incorporate keying conference decisions into final keying schedule after reviewing door hardware keying system including, but not limited to, the following:

1. Function of building, flow of traffic, purpose of each area, degree of security required, and plans for future expansion.
2. Preliminary key system schematic diagram.
3. Requirements for key control system.
4. Address for delivery of keys.

#### 1.5 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 related to the final Door Hardware Schedule, and include basic installation instructions with each item or package.
- C. Deliver keys to manufacturer of key control system.
- D. Deliver keys to City of New York by registered mail or overnight package service.

#### 1.6 COORDINATION

- A. Coordinate layout and installation of recessed pivots and closers with floor construction.
- B. Templates: Obtain and distribute to the parties involved templates for doors, frames, and other work specified to be factory prepared for installing door hardware. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing door hardware to comply with indicated requirements.
- C. Electrical System Roughing-in: Coordinate layout and installation of electrified door hardware with connections to power supplies, fire alarm system and detection devices, and access control system.

#### 1.7 WARRANTY

- A. General Warranty: Special warranties specified in this Article shall not deprive City of New York of other rights City of New York may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by Contractor under requirements of the Contract Documents.
- B. Special Warranty: Written warranty, executed by manufacturer agreeing to repair or replace components of door hardware that fail in materials or workmanship within specified warranty period. Failures include, but are not limited to, the following:



1. Structural failures including excessive deflection, cracking, or breakage.
  2. Faulty operation of operators and door hardware.
  3. Deterioration of metals, metal finishes, and other materials beyond normal weathering.
- C. Warranty Period: Three years from date of Substantial Completion, unless otherwise indicated.

## 1.8 GUARANTEE SERVICE

- A. Maintenance Tools and Instructions: Furnish a complete set of specialized tools and maintenance instructions as needed 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. General: Provide door hardware for each door to comply with requirements in this Section.
1. Door Hardware Sets are scheduled in the Drawings. Provide products by specified manufacturer's or approved equal manufacturers. Commissioner will review alternate manufacturer's and products as per the submittal procedure of this section. Provide a detailed grouping schedule for review prior to approval of hardware
  2. Door hardware sets for all concealed doors noted on drawings. Provide sequence of operation, product data and hardware grouping schedule for these doors.

### 2.2 FABRICATION

- A. Manufacturer's Nameplate: Do not provide manufacturers' products that have manufacturer's name or trade name displayed in a visible location (omit removable nameplates) except in conjunction with required fire-rated labels and as otherwise approved by Commissioner.
1. Manufacturer's identification will be permitted on rim of lock cylinders only.
- B. Base Metals: Produce door hardware units of base metal, 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 for finishes. Do not furnish manufacturer's standard materials or forming methods if different from specified standard.
- C. Fasteners: Provide door hardware manufactured to comply with published templates generally prepared for machine, wood, and sheet metal screws. Provide screws according to commercially recognized industry standards for application intended. 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. Steel Machine or Wood Screws: For the following fire-rated applications:
  - a. Mortise hinges to doors.
  - b. Strike plates to frames.
  - c. Closers to doors and frames.
3. Steel Through Bolts: For the following fire-rated applications, unless door blocking is provided:
  - a. Surface hinges to doors.
  - b. Closers to doors and frames.
  - c. Surface-mounted exit devices.
4. Spacers or Hex Bolts: For through bolting of hollow metal doors.
5. Fasteners for Wood Doors: Comply with requirements of DHI WDHS.2, "Recommended Fasteners for Wood Doors."

### 2.3 MANUFACTURERS:

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following as noted in the contract drawings:
  1. Schlage
  2. Ives
  3. VonDupirn
  4. LCN
  5. Stanely
  6. Or approved equal

### 2.4 FINISHES

- A. Standard: Comply with BHMA A156.18.
- B. Refer to door schedules sheets A-601 through A-604
- C. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.
- D. 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 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: Comply with DHI A115 series.
  - 1. Surface-Applied Door Hardware: Drill and tap doors and frames according to SDI 107.
- B. Wood Doors: Comply with DHI A115-W series.

#### **3.3 INSTALLATION**

- A. Mounting Heights: Mount door hardware units at heights indicated in following applicable publications, unless specifically indicated or required to comply with governing regulations:
  - 1. Standard Steel Doors and Frames: DHI's "Recommended Locations for Architectural Hardware for Standard Steel Doors and Frames."
  - 2. Custom Steel Doors and Frames: DHI's "Recommended Locations for Builders' Hardware for Custom Steel Doors and Frames."
  - 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 work specified in Division 9 Sections. 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. Key Control System: Place keys on markers and hooks in key control system cabinet, as determined by final keying schedule.
- D. Boxed Power Supplies: Locate power supplies as indicated or, if not indicated, above accessible ceilings or an alternate location to be approved by the Commissioner. Verify location with Commissioner.
  1. Configuration: Provide one power supply for each door opening.
  2. Configuration: Provide the least number of power supplies required to adequately serve doors with electrified door hardware.

### 3.4 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 so that, from an open position of 70 degrees, the door will take at least 3 seconds to move to a point 3 inches (75 mm) from the latch, measured to the leading edge of the door.

### 3.5 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 door hardware is without damage or deterioration at time of Substantial Completion.

**END OF SECTION 087110**



NEW YORK CITY DEPARTMENT OF  
DESIGN + CONSTRUCTION

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## SECTION 092900

### GYPSUM BOARD ASSEMBLIES

#### PART 1 - 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. Interior gypsum wallboard.
  2. Interior and Exterior gypsum board panels for ceilings and soffits.
  3. Tile backing panels.
  4. Non-load-bearing steel framing.
- B. Related Sections include the following:
1. Division 9 Section "Gypsum Board Shaft-Wall Assemblies" for framing, gypsum panels, and other components of shaft wall assemblies.
  2. Division 9 Section "Ceramic Tile" for cementitious backer units installed as substrates for ceramic tile.

##### 1.3 DEFINITIONS

- A. Gypsum Board Terminology: Refer to ASTM C 11 for definitions of terms for gypsum board assemblies not defined in this Section or in other referenced standards.

##### 1.4 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Shop Drawings: Show locations, fabrication, and installation of control and expansion joints including plans, elevations, sections, details of components, and attachments to other units of Work.





## 1.5 QUALITY ASSURANCE

- A. Fire-Test-Response Characteristics: For gypsum board assemblies with fire-resistance ratings, provide materials and construction identical to those tested in assembly indicated according to ASTM E 119 by an independent testing and inspecting agency acceptable to authorities having jurisdiction.
  - 1. Fire-Resistance-Rated Assemblies: Indicated by design designations from UL's "Fire Resistance Directory. Specific fire rated wall assemblies are indicated in the Drawings. The requirements of this section shall apply throughout.

## 1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials in original packages, containers, or bundles bearing brand name and identification of manufacturer or supplier.
- B. Store materials inside under cover and keep them dry and protected against damage from weather, direct sunlight, surface contamination, corrosion, construction traffic, and other causes. Stack gypsum panels flat to prevent sagging.

## 1.7 PROJECT CONDITIONS

- A. Environmental Limitations: Comply with ASTM C 840 requirements or gypsum board manufacturer's written recommendations, whichever are more stringent.

## 1.8 WARRANTY

- A. Gypsum Board: Provide written 5 year material warranty issued by the manufacturer upon completion of the work.

## PART 2 - PRODUCTS

### 2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
  - 1. Steel Framing and Furring:
    - a. Clark Steel Framing Systems.
    - b. Consolidated Systems, Inc.
    - c. Dale Industries, Inc. - Dale/Incor.
    - d. Dietrich Industries, Inc.



- e. MarinoWare; Division of Ware Ind.
- f. National Gypsum Company.
- g. Scafco Corporation.
- h. Unimast, Inc.
- i. Western Metal Lath & Steel Framing Systems.
- j. Other approved equal.

2. Gypsum Board and Related Products:

- a. American Gypsum Co.
- b. G-P Gypsum Corp.
- c. National Gypsum Company.
- d. United States Gypsum Co.
- e. Other approved equal or as indicated in the Drawings.

2.2 STEEL SUSPENDED CEILING AND SOFFIT FRAMING

- A. Components, General: Comply with ASTM C 754 for conditions indicated.
- B. Tie Wire: ASTM A 641/A 641M, Class 1 zinc coating, soft temper, 0.0625-inch- (1.59-mm-) diameter wire, or double strand of 0.0475-inch- (1.21-mm-) diameter wire.
- C. Hanger Attachments to Concrete: As follows:
  1. Anchors: Fabricated from corrosion-resistant materials with holes or loops for attaching hanger wires and capable of sustaining, without failure, a load equal to 5 times that imposed by construction as determined by testing according to ASTM E 488 by a qualified independent testing agency.
    - a. Type: Cast-in-place anchor, designed for attachment to concrete forms
- D. Hangers: As follows:
  1. Wire Hangers: ASTM A 641/A 641M, Class 1 zinc coating, soft temper, 0.162-inch (4.12-mm) diameter.
  2. Rod Hangers: ASTM A 510 (ASTM A 510M), mild carbon steel.
    - a. Diameter: 7/32-inch (5.56-mm) min.
    - b. Protective Coating: ASTM A 153/A 153M, hot-dip galvanized
- E. Carrying Channels: Cold-rolled, commercial-steel sheet with a base metal thickness of 0.0538 inch (1.37 mm), a minimum 1/2-inch- (12.7-mm-) wide flange, with ASTM A 653/A 653M, G40 (Z120), hot-dip galvanized zinc coating or as noted in the Drawings.
  1. Depth: 2-1/2 inches (63.5 mm) or as indicated in the Drawings



- F. Furring Channels (Furring Members): Commercial-steel sheet with ASTM A 653/A 653M, G40 (Z120), hot-dip galvanized zinc coating or as indicated in the drawings. Specific furring channel types vary and are indicated in the drawings.
1. Steel Studs: ASTM C 645.
    - a. Minimum Base Metal Thickness: 0.0179 inch (0.45 mm) unless otherwise indicated
    - b. Depth: 1-5/8 inches (41.3 mm) unless otherwise indicated.
  2. Hat-Shaped, Rigid Furring Channels: ASTM C 645, 7/8 inch (22.2 mm) deep.
    - a. Minimum Base Metal Thickness: 0.0179 inch (0.45 mm)
  3. Resilient Furring Channels: 1/2-inch- (12.7-mm-) deep members designed to reduce sound transmission.
- G. Grid Suspension System for Interior Ceilings: ASTM C 645, direct-hung system composed of main beams and cross-furring members that interlock.
1. Products: Subject to compliance with requirements, provide one of the following:
    - a. USG Interiors, Inc.; Drywall Suspension System.
    - b. Other approved equal

## 2.3 STEEL PARTITION AND SOFFIT FRAMING

- A. Components, General: As follows:
1. Comply with ASTM C 754 for conditions indicated.
  2. Steel Sheet Components: Complying with ASTM C 645 requirements for metal and with ASTM A 653/A 653M, G40 (Z120), hot-dip galvanized zinc coating.
- B. Steel Studs and Runners: ASTM C 645.
1. Minimum Base Metal Thickness: 0.0312 inch (0.79 mm) unless otherwise indicated.
  2. Depth: 3-5/8 inches (92.1 mm) minimum unless otherwise indicated.
- C. Deep-Leg Deflection Track: ASTM C 645 top runner with 2-inch- (50.8-mm-) deep flanges.
1. Available Product: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the following:
    - a. Delta Star, Inc., Superior Metal Trim; Superior Flex Track System (SFT).
    - b. Metal-Lite, Inc.; Slotted Track.
    - c. Other approved equal subject to compliance with the requirements.



- D. Cold-Rolled Channel Bridging: 0.0538-inch (1.37-mm) bare steel thickness, with minimum 1/2-inch- (12.7-mm-) wide flange.
  - 1. Depth: 1-1/2 inches (38.1 mm) minimum or to suit application.
  - 2. Clip Angle: 1-1/2 by 1-1/2 inch (38.1 by 38.1 mm), 0.068-inch- (1.73-mm-) thick, galvanized steel.
- E. Hat-Shaped, Rigid Furring Channels: ASTM C 645.
  - 1. Minimum Base Metal Thickness: 0.0312 inch (0.79 mm)
  - 2. Depth: 7/8 inch (22.2 mm) or as indicated in the drawings.
- F. Cold-Rolled Furring Channels: 0.0538-inch (1.37-mm) bare steel thickness, with minimum 1/2-inch- (12.7-mm-) wide flange.
  - 1. Depth: 3/4 inch (19.1 mm) or as indicated in the drawings.
  - 2. Furring Brackets: Adjustable, corrugated-edge type of steel sheet with minimum bare steel thickness of 0.0312 inch (0.79 mm).
  - 3. Tie Wire: ASTM A 641/A 641M, Class 1 zinc coating, soft temper, 0.0625-inch- (1.59-mm-) diameter wire, or double strand of 0.0475-inch- (1.21-mm-) diameter wire.
- G. Z-Shaped Furring: With slotted or nonslotted web, face flange of 1-1/4 inches (31.8 mm), wall attachment flange of 7/8 inch (22.2 mm), minimum bare metal thickness of 0.0179 inch (0.45 mm), and depth required to fit insulation thickness indicated.
- H. Fasteners for Metal Framing: Of type, material, size, corrosion resistance, holding power, and other properties required to fasten steel members to substrates.

#### 2.4 INTERIOR GYPSUM WALLBOARD

- A. Panel Size: Provide in maximum lengths and widths available that will minimize joints in each area and correspond with support system indicated.
- B. Gypsum Wallboard: ASTM C 36.
  - 1. Regular Type:
    - a. Thickness: As indicated in the drawings
    - b. Long Edges: Tapered
    - c. Location: Vertical surfaces, unless otherwise indicated.
  - 2. Type X:
    - a. Thickness: 5/8 inch (15.9 mm) unless otherwise indicated.
    - b. Long Edges: Tapered
    - c. Location: Where required for fire-resistance-rated assembly



- C. Special Fire-Resistive Type: ASTM C 36, having improved fire resistance over standard Type X.
1. Products: Subject to compliance with requirements, provide one of the following:
    - a. American Gypsum Co.; FireBloc Type C.
    - b. United States Gypsum Co.; SHEETROCK Brand Gypsum Panels, FIRECODE C Core
    - c. Other approved equal subject to the requirements.
  2. Thickness: As indicated in the drawings
  3. Long Edges: Tapered
  4. Location: Where required for specific fire-resistance-rated assembly indicated.
- D. Panel Size: Provide in maximum lengths and widths available that will minimize joints in each area and correspond with support system indicated.
- E. Exterior Gypsum Soffit Board: ASTM C 931/C 931M, with manufacturer's standard edges.
1. Core: 5/8 inch (15.9 mm), Type X.

## 2.5 TILE BACKING PANELS

- A. Panel Size: Provide in maximum lengths and widths available that will minimize joints in each area and correspond with support system indicated.
- B. Cementitious Backer Units: ANSI A118.9.
1. Products: Subject to compliance with requirements, provide one of the following:
    - a. Custom Building Products; Wonderboard.
    - b. FinPan, Inc.; Util-A-Crete Concrete Backer Board.
    - c. United States Gypsum Co.; DUROCK Cement Board.
    - d. Other approved equal.
  2. Thickness: 1/2 inch (12.7 mm) unless otherwise indicated.

## 2.6 TRIM ACCESSORIES

- A. Interior Trim: ASTM C 1047.
1. Material: Galvanized or aluminum-coated steel sheet or rolled zinc
  2. Shapes:
    - a. Cornerbead: Use at outside corners.



- b. U-Bead: J-shaped; exposed short flange does not receive joint compound; use edges of gypsum wallboard ceilings adjacent to masonry or other uneven surfaces.

## 2.7 JOINT TREATMENT MATERIALS

- A. General: Comply with ASTM C 475.
- B. Joint Tape:
  - 1. Interior Gypsum Wallboard: Paper.
  - 2. Exterior Gypsum Soffit Board: Paper.
  - 3. Glass-Mat Gypsum Sheathing Board: 10-by-10 glass mesh.
  - 4. Tile Backing Panels: As recommended by panel manufacturer.
- C. Joint Compound for Interior Gypsum Wallboard: For each coat use formulation that is compatible with other compounds applied on previous or for successive coats.
  - 1. Prefilling: At open joints, and damaged surface areas, use setting-type taping compound.
  - 2. Embedding and First Coat: For embedding tape and first coat on joints, fasteners, and trim flanges, use setting-type taping compound.
    - a. Use setting-type compound for installing paper-faced metal trim accessories.
  - 3. Fill Coat: For second coat, use drying-type, all-purpose compound.
  - 4. Finish Coat: For third coat, use drying-type, all-purpose compound.
  - 5. Skim Coat: For final coat of Level 5 finish, use setting-type, sandable topping compound.
- D. Joint Compound for Exterior Applications:
  - 1. Exterior Gypsum Soffit Board: Use setting-type taping and setting-type, sandable topping compounds.
- E. Joint Compound for Tile Backing Panels:
  - 1. Cementitious Backer Units: As recommended by manufacturer.

## 2.8 AUXILIARY MATERIALS

- A. General: Provide auxiliary materials that comply with referenced installation standards and manufacturer's written recommendations.
- B. Laminating Adhesive: Adhesive or joint compound recommended for directly adhering gypsum panels to continuous substrate.
- C. Steel Drill Screws: ASTM C 1002, unless otherwise indicated.



1. Use screws complying with ASTM C 954 for fastening panels to steel members from 0.033 to 0.112 inch (0.84 to 2.84 mm) thick.
  2. For fastening cementitious backer units, use screws of type and size recommended by panel manufacturer.
- D. Isolation Strip at Exterior Walls:
1. 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.
- E. Sound Attenuation Blankets: ASTM C 665, Type I (blankets without membrane facing) produced by combining thermosetting resins with mineral fibers manufactured from glass, slag wool, or rock wool.
1. Fire-Resistance-Rated Assemblies: Comply with mineral-fiber requirements of assembly. Refer to specific assemblies in the drawings.

### PART 3 - EXECUTION

#### 3.1 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. Proceed with installation only after unsatisfactory conditions have been corrected.

#### 3.2 PREPARATION

- A. Suspended Ceilings: Coordinate installation of ceiling suspension systems with installation of overhead structure to ensure that inserts and other provisions for anchorages to building structure have been installed to receive ceiling hangers at spacing required to support ceilings 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-on fire-resistive materials. Where offset anchor plates are required, provide continuous plates fastened to building structure not more than 24 inches (600 mm) o.c.
  2. After sprayed fire-resistive materials are applied, remove them only to extent necessary for installation of gypsum board assemblies and without reducing the fire-resistive material thickness below that which is required to obtain fire-resistance rating indicated. Protect remaining fire-resistive materials from damage.



### 3.3 INSTALLING STEEL FRAMING, GENERAL

- A. Installation Standards: ASTM C 754, and ASTM C 840 requirements that apply to framing installation.
- B. Install supplementary framing, blocking, and bracing at terminations in gypsum board assemblies to support fixtures, equipment services, heavy trim, grab bars, toilet accessories, furnishings, or similar construction. Comply with details indicated and with gypsum board manufacturer's written recommendations or, if none available, with United States Gypsum's "Gypsum Construction Handbook."
- C. Isolate steel framing from building structure at locations indicated to prevent transfer of loading imposed by structural movement.
  - 1. Isolate ceiling assemblies where they abut or are penetrated by building structure.
  - 2. Isolate partition framing and wall furring where it abuts structure, except at floor. Install slip-type joints at head of assemblies that avoid axial loading of assembly and laterally support assembly.
    - a. Use deep-leg deflection track where indicated.
- D. Do not bridge building control and expansion joints with steel framing or furring members. Frame both sides of joints independently.

### 3.4 INSTALLING STEEL SUSPENDED CEILING AND SOFFIT FRAMING

- A. Suspend ceiling hangers from building structure as follows:
  - 1. Install hangers plumb and free from contact with insulation or other objects within ceiling plenum that are not part of supporting structural or ceiling suspension system. Splay hangers only where required to miss obstructions and offset resulting horizontal forces by bracing, countersplaying, or other equally effective means.
  - 2. Where width of ducts and other construction within ceiling plenum produces hanger spacings that interfere with the location of hangers required to support standard suspension system members, install supplemental suspension members and hangers in form of trapezes or equivalent devices. Size supplemental suspension members and hangers to support ceiling loads within performance limits established by referenced standards.
  - 3. Secure wire hangers by looping and wire-tying, either directly to structures or to inserts, eyescrews, or other devices and fasteners that are secure and appropriate for substrate, and in a manner that will not cause them to deteriorate or otherwise fail.
  - 4. Secure rod hangers to structure, including intermediate framing members, by attaching to inserts, eyescrews, or other devices and fasteners that are secure and appropriate for structure and hanger, and in a manner that will not cause hangers to deteriorate or otherwise fail.
  - 5. Do not support ceilings directly from permanent metal forms. Furnish cast-in-place hanger inserts that extend through forms.





6. Do not connect or suspend steel framing from ducts, pipes, or conduit.
- B. Installation Tolerances: Install steel framing components for suspended ceilings so members for panel attachment are level to within 1/8 inch in 12 feet (3 mm in 3.6 m)] measured lengthwise on each member and transversely between parallel members.
- C. For exterior soffits, install cross bracing and framing to resist wind uplift.
- D. Wire-tie furring channels to supports, as required to comply with requirements for assemblies indicated.
- E. Install suspended steel framing components in sizes and spacings indicated, but not less than that required by the referenced steel framing and installation standards.
  1. Hangers: 48 inches (1219 mm) o.c. unless otherwise indicated or noted. Refer to wall / ceiling assemblies.
  2. Carrying Channels (Main Runners): 24 inches o.c.
  3. Furring Channels (Furring Members): As Indicated.
- F. Grid Suspension System: Attach perimeter wall track or angle where grid suspension system meets vertical surfaces. Mechanically join main beam and cross-furring members to each other and butt-cut to fit into wall track.

### 3.5 INSTALLING STEEL PARTITION AND SOFFIT FRAMING

- A. Install tracks (runners) at floors, ceilings, and structural walls and columns where gypsum board assemblies abut other construction.
  1. Where studs are installed directly against exterior walls, install foam-gasket isolation strip between studs and wall.
- B. Installation Tolerance: Install each steel framing and furring member so fastening surfaces vary not more than 1/8 inch (3 mm) from the plane formed by the faces of adjacent framing.
- C. Extend partition framing full height to structural supports or substrates above suspended ceilings, except where partitions are indicated to terminate at suspended ceilings. Continue framing over frames for doors and openings and frame around ducts penetrating partitions above ceiling to provide support for gypsum board.
  1. For fire-resistance-rated partitions that extend to the underside of floor/roof slabs and decks or other continuous solid-structure surfaces to obtain ratings, install framing around structural and other members extending below floor/roof slabs and decks, as needed to support gypsum board closures and to make partitions continuous from floor to underside of solid structure.
- D. Install steel studs and furring at the following spacings:
  1. Single-Layer Construction: 16 inches (406 mm) o.c., unless otherwise indicated.
  2. Multilayer Construction: 16 inches (406 mm) o.c., unless otherwise indicated.



3. Cementitious Backer Units: 16 inches (406 mm) o.c., unless otherwise indicated.
- E. Install steel studs so flanges point in the same direction and leading edge or end of each panel can be attached to open (unsupported) edges of stud flanges first.
- F. Frame door openings to comply with GA-600 and with gypsum board manufacturer's applicable written recommendations, unless otherwise indicated. 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.
  1. Install two studs at each jamb, unless otherwise indicated.
  2. 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.
  3. Extend jamb studs through suspended ceilings and attach to underside of floor or roof structure above.
- G. 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.
- H. Z-Furring Members:
  1. Erect insulation vertically and hold in place with Z-furring members spaced 24" o.c. unless otherwise indicated.
  2. Except at exterior corners, securely attach narrow flanges of furring members to wall with concrete stub nails, screws designed for masonry attachment, or powder-driven fasteners spaced 24 inches (600 mm) o.c.
  3. At exterior corners, attach wide flange of furring members to wall with short flange extending beyond corner; on adjacent wall surface, screw-attach short flange of furring channel to web of attached channel. At interior corners, space second member no more than 12 inches (300 mm) from corner and cut insulation to fit.
  4. Until gypsum board is installed, hold insulation in place with 10-inch (250-mm) staples fabricated from 0.0625-inch- (1.59-mm-) diameter, tie wire and inserted through slot in web of member.

### 3.6 APPLYING AND FINISHING PANELS, GENERAL

- A. Gypsum Board Application and Finishing Standards: ASTM C 840 and GA-216.
- B. Install sound attenuation blankets before installing gypsum panels, unless blankets are readily installed after panels have been installed on one side.
- C. Install ceiling board panels across framing to minimize the number of abutting end joints and to avoid abutting end joints in the central area of each ceiling. Stagger abutting end joints of adjacent panels not less than one framing member.



- D. Install gypsum 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.
- E. 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.
- F. Attach gypsum panels to steel studs so leading edge or end of each panel is attached to open (unsupported) edges of stud flanges first.
- G. Attach gypsum panels to framing provided at openings and cutouts.
- H. Form control and expansion joints with space between edges of adjoining gypsum panels.
- I. Cover both faces of steel stud partition 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 open concrete coffers, concrete joists, and other structural members projecting below underside of floor/roof slabs and decks, cut gypsum panels to fit profile formed by coffers, joists, and other structural members; allow 1/4- to 3/8-inch- (6.4- to 9.5-mm-) wide joints to install sealant.
- J. Isolate perimeter of non-load-bearing gypsum board 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 U-bead edge trim where edges of gypsum panels are exposed. Seal joints between edges and abutting structural surfaces with acoustical sealant.
- K. Space fasteners in gypsum panels according to referenced gypsum board application and finishing standard and manufacturer's written recommendations.
  - 1. Space screws a maximum of 12 inches (304.8 mm) o.c. for vertical applications unless otherwise indicated.
- L. Space fasteners in panels that are tile substrates a maximum of 8 inches (203.2 mm) o.c.

### 3.7 PANEL APPLICATION METHODS

#### A. Single-Layer Application:

- 1. On ceilings, apply gypsum panels before wall/partition board application to the greatest extent possible and at right angles to framing, unless otherwise indicated.
- 2.



- On partitions/walls, apply gypsum panels vertically (parallel to framing), unless otherwise indicated or required by fire-resistance-rated assembly, and minimize end joints.
- a. Stagger abutting end joints not less than one framing member in alternate courses of board.
  - b. At stairwells and other high walls, install panels horizontally, unless otherwise indicated or required by fire-resistance-rated assembly.
3. On Z-furring members, apply gypsum panels vertically (parallel to framing) with no end joints. Locate edge joints over furring members.
- B. Multilayer Application on Ceilings: Apply gypsum board indicated for base layers before applying base layers on walls/partitions; apply face layers in same sequence. Apply base layers at right angles to framing members and offset face-layer joints 1 framing member, 16 inches (400 mm) minimum, from parallel base-layer joints, unless otherwise indicated or required by fire-resistance-rated assembly.
- C. Multilayer Application on Partitions/Walls: Apply gypsum board indicated for base layers and face layers vertically (parallel to framing) with joints of base layers located over stud or furring member and face-layer joints offset at least one stud or furring member with base-layer joints, unless otherwise indicated or required by fire-resistance-rated assembly. Stagger joints on opposite sides of partitions.
1. Z-Furring Members: Apply base layer vertically (parallel to framing) and face layer either vertically (parallel to framing) or horizontally (perpendicular to framing) with vertical joints offset at least one furring member. Locate edge joints of base layer over furring members.
- D. Single-Layer Fastening Methods: Apply gypsum panels to supports with steel drill screws.
- E. Multilayer Fastening Methods: Fasten as indicated in the specific assembly details.
- F. Laminating to Substrate: Where gypsum panels are indicated as directly adhered to a substrate (other than studs, joists, furring members, or base layer of gypsum board), comply with gypsum board manufacturer's written recommendations and temporarily brace or fasten gypsum panels until fastening adhesive has set.
- G. Exterior Soffits and Ceilings: Apply exterior gypsum soffit board panels perpendicular to supports, with end joints staggered and located over supports.
1. Install with 1/4-inch (6.4-mm) open space where panels abut other construction or structural penetrations.
  2. Fasten with corrosion-resistant screws.
- H. Tile Backing Panels:
1. Cementitious Backer Units: ANSI A108.11, at locations indicated to receive tile.



2. Areas Not Subject to Wetting: Install standard gypsum wallboard panels to produce a flat surface except at showers, tubs, and other locations indicated to receive water-resistant panels.
3. Where tile backing panels abut other types of panels in the same plane, shim surfaces to produce a uniform plane across panel surfaces.

### 3.8 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. Control Joints: Install control joints according to ASTM C 840 and in specific locations approved by Commissioner for visual effect.

### 3.9 FINISHING GYPSUM BOARD ASSEMBLIES

- 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, and damaged surface areas.
- C. Apply joint tape over gypsum board joints, except those with trim having flanges not intended for tape.
- D. Gypsum Board Finish Levels: Finish panels to levels indicated below, according to ASTM C 840, for locations indicated:
  1. Level 1: Embed tape at joints in ceiling plenum areas, concealed areas, and where indicated.
  2. Level 4: Embed tape and apply separate first, fill, and finish coats of joint compound to tape, fasteners, and trim flanges at panel surfaces that will be exposed to view.
- E. Glass-Mat, Water-Resistant Backing Panels: Finish according to manufacturer's written instructions.
- F. Cementitious Backer Units: Finish according to manufacturer's written instructions.

### 3.10 FIELD QUALITY CONTROL

- A. Above-Ceiling Observation: Before Contractor installs gypsum board ceilings, Commissioner will conduct an above-ceiling observation and report deficiencies in the Work observed. Do not proceed with installation of gypsum board to ceiling support framing until deficiencies have been corrected.



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1. Notify Commissioner seven (7) days in advance of date and time when Project, or part of Project, will be ready for above-ceiling observation.
2. Before notifying Commissioner, complete the following in areas to receive gypsum board ceilings:
  - a. Installation, insulation, and leak and pressure testing of water piping systems.
  - b. Installation of air-duct systems.
  - c. Installation of air devices.
  - d. Installation of mechanical system control-air tubing.
  - e. Installation of ceiling support framing.
  - f. Installation of spray applied fireproofing and fire stop systems.

**END OF SECTION 092900**



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## SECTION 093000

### TILING

#### PART 1 - 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. Ceramic or Porcelain mosaic tile.
2. Quarry tile.
3. Paver tile.
4. Glazed wall tile.
5. Stone thresholds installed as part of tile installations.
6. Waterproof membrane for thin-set tile installations.
7. Cementitious backer units installed as part of tile installations.

- B. Related Sections include the following:

1. Division 7 Section Elastomeric Sheet Waterproofing for waterproofing under thickset mortar beds.
2. Division 9 Section "Gypsum Board Assemblies" for cementitious backer units.

##### 1.3 DEFINITIONS

- A. Module Size: Actual tile size (minor facial dimension as measured per ASTM C 499) plus joint width indicated.

##### 1.4 PERFORMANCE REQUIREMENTS

- A. Static Coefficient of Friction: For tile installed on walkway surfaces, provide products with the following values as determined by testing identical products per ASTM C 1028:





1. Level Surfaces: Minimum 0.6.

#### 1.5 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Samples for Initial Selection: For each type of tile and grout indicated. Include Samples of accessories involving color selection.
- C. Samples for Verification:
  1. Full-size units of each type and composition of tile and for each color and finish required.
  2. Full-size units of each type of trim and accessory for each color and finish required.
  3. Stone thresholds in minimum 6-inch (150-mm) lengths.
- D. Qualification Data: For Installer.

#### 1.6 QUALITY ASSURANCE

- A. Source Limitations for Tile: Obtain all tile of same type and color or finish from one source or producer.
  1. Obtain tile from same production run and of consistent quality in appearance and physical properties for each contiguous area.
- B. Source Limitations for Setting and Grouting Materials: Obtain ingredients of a uniform quality for each mortar, adhesive, and grout component from a single manufacturer and each aggregate from one source or producer.
- C. Source Limitations for Other Products: Obtain each of the following products specified in this Section through one source from a single manufacturer for each product:
  1. Stone thresholds.
  2. Waterproofing.
  3. Joint sealants.
  4. Cementitious backer units.

#### 1.7 DELIVERY, STORAGE, AND HANDLING

- A. Deliver and store packaged materials in original containers with seals unbroken and labels intact until time of use. Comply with requirement in ANSI A137.1 for labeling sealed tile packages.
- B. Store tile and cementitious materials on elevated platforms, under cover, and in a dry location.
- C. Store aggregates where grading and other required characteristics can be maintained and contamination avoided.



- D. Store liquid latexes and/or emulsion adhesives in unopened containers and protected from freezing.
- E. Handle tile that has temporary protective coating on exposed surfaces to prevent coated surfaces from contacting backs or edges of other units. If coating does contact bonding surfaces of tile, remove coating from bonding surfaces before setting tile.

#### 1.8 PROJECT CONDITIONS

- A. Environmental Limitations: Do not install tile until construction in spaces is complete and ambient temperature and humidity conditions are maintained at the levels indicated in referenced standards and manufacturer's written instructions.

#### 1.9 EXTRA MATERIALS

- A. Furnish extra materials described below that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
  - 1. Tile and Trim Units: Furnish quantity of full-size units equal to 3 percent of amount installed, for each type, composition, color, pattern, and size indicated.

#### 1.10 WARRANTY

- A. Ceramic Tile: Provide written 1 year material warranty issued by the membrane manufacturer upon completion of the work.

### 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. Products: Subject to compliance with requirements, provide one of the products specified.
  - 2. Manufacturers: Subject to compliance with requirements, provide products by one of the manufacturers specified.

#### 2.2 PRODUCTS, GENERAL

- A. ANSI Ceramic Tile Standard: Provide tile that complies with ANSI A137.1, "Specifications for Ceramic Tile," for types, compositions, and other characteristics indicated.
  - 1. Provide tile complying with Standard grade requirements, unless otherwise indicated.



2. For facial dimensions of tile, comply with requirements relating to tile sizes specified in Part 1 "Definitions" Article.
- B. ANSI Standards for Tile Installation Materials: Provide materials complying with ANSI standards referenced in "Setting and Grouting Materials" Article.
- C. Colors, Textures, and Patterns: Where manufacturer's standard products are indicated for tile, grout, and other products requiring selection of colors, surface textures, patterns, and other appearance characteristics, provide specific products or materials complying with the following requirements:
  1. As selected by Commissioner from manufacturer's full range.
- D. Factory Blending: For tile exhibiting color variations within ranges selected during Sample submittals, blend tile in factory and package so tile units taken from one package show same range in colors as those taken from other packages and match approved Samples.
- E. Mounting: For factory-mounted tile, provide back- or edge-mounted tile assemblies as standard with manufacturer, unless otherwise indicated.
  1. Where tile is indicated for installation on exteriors or in wet areas, do not use back- or edge-mounted tile assemblies unless tile manufacturer specifies in writing that this type of mounting is suitable for installation indicated and has a record of successful in-service performance.
- F. Factory-Applied Temporary Protective Coating: Where indicated under tile type, protect exposed surfaces of tile against adherence of mortar and grout by precoating with continuous film of petroleum paraffin wax, applied hot. Do not coat unexposed tile surfaces.

### 2.3 TILE PRODUCTS

- A. Manufacturers: Provide tile from the manufacturer's specified in the drawings. Substitutions will be considered in accordance with "DDC General Conditions". Provide products by one of the following unless otherwise indicated in the Drawings.
  1. American Olean; Div. of Dal-Tile International Corp.
  2. Crossville Ceramics Company, L.P.
  3. Daltile; Div. of Dal-Tile International Inc.
  4. Porcelanite, Inc.
  5. Quarry Tile Company.
  6. Other approved Equal
- B. Unglazed Ceramic Mosaic Tile: Factory-mounted flat tile as follows:
  1. Composition: Porcelain.
  2. Surface: Slip-resistant, with abrasive admixture.
  3. Module Size: 1 by 1 inch (25.4 by 25.4 mm) or as otherwise indicated in the Drawings



4. Nominal Thickness: 1/4 inch (6.35 mm).
5. Face: Plain with cushion edges.

C. Glazed Ceramic Mosaic Tile: Factory-mounted flat tile as follows:

1. Composition: Vitreous or impervious natural clay or porcelain.
2. Module Size: 1 by 1 inch (25.4 by 25.4 mm) or as indicated in the Drawings.
3. Thickness: 1/4 inch (6.35 mm).
4. Face: Plain with cushion edges.
5. Finish: Bright, opaque glaze.

D. Unglazed Quarry Tile: Square-edged flat tile as follows:

1. Wearing Surface: Nonabrasive, textured
2. Facial Dimensions: 6 by 6 inches (152 by 152 mm) unless otherwise indicated.
3. Thickness: 3/8 inch (9.5 mm) minimum
4. Face: Plain

E. Glazed Wall Tile: Flat tile as follows:

1. Module Size: As indicated.
2. Thickness: As Indicated
3. Face: Plain with modified square edges or cushion edges.
4. Finish: Bright, opaque glaze.
5. Mounting: Pregrouted sheets of tiles factory assembled and grouted with manufacturer's standard silicone rubber.

F. Glazed Wall Tile Trim Units: Matching characteristics of adjoining flat tile and coordinated with sizes and coursing of adjoining flat tile where applicable. Provide shapes as follows, selected from manufacturer's standard shapes:

1. Base for Portland Cement Mortar Installations: As Indicated.
2. Base for Thin-Set Mortar Installations: As Indicated
3. External Corners for Portland Cement Mortar Installations: Bullnose shape with radius of at least 3/4 inch (19 mm), unless otherwise indicated.
4. External Corners for Thin-Set Mortar Installations: Surface bullnose.
5. Internal Corners: Field-buttet square corners except with coved base and cap angle pieces designed to fit with stretcher shapes.

G. Ceramic Mosaic Trim Units: Matching characteristics of adjoining flat tile and coordinated with sizes and coursing of adjoining flat tile where applicable. Provide shapes as follows, selected from manufacturer's standard shapes:

1. Wainscot Cap for Flush Conditions: Regular flat tile for conditions where tile wainscot is shown flush with wall surface above.
2. External Corners for Thin-Set Mortar Installations: Surface bullnose, module size as indicated.



## 2.4 THRESHOLDS

- A. General: Fabricate to sizes and profiles indicated or required to provide transition between adjacent floor finishes.
  - 1. Bevel edges at 1:2 slope, aligning lower edge of bevel with adjacent floor finish. Limit height of bevel to 1/2 inch (12.7 mm) or less, and finish bevel to match face of threshold.
- B. Granite Thresholds: ASTM C 615, with honed finish.
  - 1. Description: Uniform, medium-grained, stone without veining. Color to be selected by Commissioner from manufacturer's full range.
- C. Marble Thresholds: ASTM C 503 with a minimum abrasion resistance of [10] [12] per ASTM C 1353 or ASTM C 241 and with honed finish.
  - 1. Description: Uniform, fine- to medium-grained white stone with gray veining.

## 2.5 WATERPROOFING AND CRACK-SUPPRESSION MEMBRANES FOR THIN-SET TILE INSTALLATIONS

- A. General: Manufacturer's standard product that complies with ANSI A118.10, selected from the following.
- B. Polyethylene-Sheet Product: Polyethylene faced on both sides with fleece webbing for adhering to latex-portland cement mortar; 39 inches (1000 mm) wide by 0.008-inch (0.203-mm) nominal thickness.
  - 1. Available Products: Schluter Systems L.P.; KERDI or other approved equal.
- C. Latex-Portland Cement Product: Flexible mortar consisting of cement-based mix and acrylic-latex additive.
  - 1. Available Products:
    - a. Boiardi Products Corporation; Elastiment 323.
    - b. MAPEI Corporation; PRP 315.
    - c. Southern Grouts & Mortars, Inc.; Southcrete 1100.
    - d. TEC Specialty Products Inc.; TA-324, Triple Flex.
    - e. Other approved equal.

## 2.6 SETTING AND GROUTING MATERIALS

- A. Available Manufacturers:
  - 1. Atlas Minerals & Chemicals, Inc.
  - 2. Boiardi Products Corporation.



3. Bonsal, W. R., Company.
4. Bostik.
5. C-Cure.
6. Custom Building Products.
7. DAP, Inc.
8. Jamo Inc.
9. LATICRETE International Inc.
10. MAPEI Corporation.
11. Southern Grouts & Mortars, Inc.
12. Summitville Tiles, Inc.
13. TEC Specialty Products Inc.
14. Other Approved Equal.

B. Portland Cement Mortar (Thickset) Installation Materials: ANSI A108.1A and as specified below:

1. Cleavage Membrane: Asphalt felt, ASTM D 226, Type I (No. 15); or polyethylene sheeting, ASTM D 4397, 4.0 mils (0.1 mm) thick.
2. Reinforcing Wire Fabric: Galvanized, welded wire fabric, 2 by 2 inches (50.8 by 50.8 mm) by 0.062-inch (1.57-mm) diameter; comply with ASTM A 185 and ASTM A 82 except for minimum wire size.
3. Expanded Metal Lath: Diamond-mesh lath complying with ASTM C 847.
  - a. Base Metal and Finish for Exterior Applications: Zinc-coated (galvanized) steel sheet.
  - b. Configuration over Solid Surfaces: Self-furring.
  - c. Weight: 2.5 lb/sq. yd. (1.4 kg/sq. m).

C. Latex-Portland Cement Mortar (Thin Set): ANSI A118.4, consisting of the following:

1. Prepackaged dry-mortar mix containing dry, redispersible, ethylene vinyl acetate additive to which only water must be added at Project site.
2. Prepackaged dry-mortar mix combined with liquid-latex additive.
  - a. For wall applications, provide nonsagging mortar that complies with Paragraph F-4.6.1 in addition to the other requirements in ANSI A118.4.

D. Sand-Portland Cement Grout: ANSI A108.10, composed of white or gray cement and white or colored aggregate as required to produce color desired. Color to be selected by Commissioner from manufacturer's full range.

E. Standard Sanded Cement Grout: ANSI A118.6, color as selected by Commissioner from manufacturer's full range.

2.7 ELASTOMERIC SEALANTS

- A. Colors: Provide colors of exposed sealants to match colors of grout in tile adjoining sealed joints, unless otherwise indicated.



- B. One-Part, Mildew-Resistant, paintable Silicone Sealant: ASTM C 920; Type S; Grade NS; Class 25; Uses NT, G, A, and, as applicable to nonporous joint substrates indicated, O; formulated with fungicide, intended for sealing interior ceramic tile joints and other nonporous substrates that are subject to in-service exposures of high humidity and extreme temperatures.
1. Products:
- a. Dow Corning Corporation; Dow Corning 786.
  - b. GE Silicones; Sanitary 1700.
  - c. Pecora Corporation; Pecora 898 Sanitary Silicone Sealant.
  - d. Tremco, Inc.; Tremsil 600 White.
  - e. Other Equal subject to compliance with the Contract Documents

## 2.8 CEMENTITIOUS BACKER UNITS

- A. Provide cementitious backer units complying with ANSI A118.9 in maximum lengths available to minimize end-to-end butt joints.
1. Thickness: Manufacturer's standard thickness, but not less than 1/4 inch (6.4 mm) unless otherwise indicated.
  2. Width: Manufacturer's standard width, but not less than 32 inches (813 mm).
- B. Products:
1. USG Corporation; DUROCK Cement Board.
  2. Other Approved Equal.

## 2.9 MISCELLANEOUS MATERIALS

- A. Trowelable Underlayments and Patching Compounds: Latex-modified, portland cement-based formulation provided or approved by manufacturer of tile-setting materials for installations indicated.
- B. Temporary Protective Coating: Either product indicated below that is formulated to protect exposed surfaces of tile against adherence of mortar and grout; compatible with tile, mortar, and grout products; and easily removable after grouting is completed without damaging grout or tile.
1. Petroleum paraffin wax, fully refined and odorless, containing at least 0.5 percent oil with a melting point of 120 to 140 deg F (49 to 60 deg C) per ASTM D 87.
  2. Grout release in form of manufacturer's standard proprietary liquid coating that is specially formulated and recommended for use as temporary protective coating for tile.
- C. Tile Cleaner: A neutral cleaner capable of removing soil and residue without harming tile and grout surfaces, specifically approved for materials and installations indicated by tile and grout manufacturers.
- D. Grout Sealer: Manufacturer's standard product for sealing grout joints that does not change color or appearance of grout.



1. Available Products:

- a. Bonsal, W. R., Company; Grout Sealer.
- b. Bostik; CeramaSeal Grout Sealer.
- c. C-Cure; Penetrating Sealer 978.
- d. Custom Building Products; Grout and Tile Sealer.
- e. Jamo Inc.; Sealer.
- f. MAPEI Corporation; KER 004, Keraseal Penetrating Sealer for Unglazed Grout and Tile.
- g. Southern Grouts & Mortars, Inc.; Silicone Grout Sealer.
- h. Summitville Tiles, Inc.; SL-15, Invisible Seal Penetrating Grout and Tile Sealer.
- i. TEC Specialty Products Inc.; **TA-256 Penetrating Silicone** Grout Sealer.
- j. Other Approved Equal to suit application.

2.10 MIXING MORTARS AND GROUT

- A. Mix mortars and grouts to comply with referenced standards and mortar and grout manufacturers' written instructions.
- B. Add materials, water, and additives in accurate proportions.
- C. Obtain and use type of mixing equipment, mixer speeds, mixing containers, mixing time, and other procedures to produce mortars and grouts of uniform quality with optimum performance characteristics for installations indicated.

**PART 3 - EXECUTION**

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions where tile will be installed, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of installed tile.
  1. Verify that substrates for setting tile are firm; dry; clean; free of oil, waxy films, and curing compounds; and within flatness tolerances required by referenced ANSI A108 Series of tile installation standards for installations indicated.
  2. Verify that installation of grounds, anchors, recessed frames, electrical and mechanical units of work, and similar items located in or behind tile has been completed before installing tile.
  3. Verify that joints and cracks in tile substrates are coordinated with tile joint locations; if not coordinated, adjust joint locations in consultation with Commissioner.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.





### 3.2 PREPARATION

- A. Remove coatings, including curing compounds and other substances that contain soap, wax, oil, or silicone, that are incompatible with tile-setting materials.
- B. Provide concrete substrates for tile floors installed with adhesives or thin-set mortar that comply with flatness tolerances specified in referenced ANSI A108 Series of tile installation standards.
  - 1. Fill cracks, holes, and depressions with trowelable leveling and patching compound according to tile-setting material manufacturer's written instructions. Use product specifically recommended by tile-setting material manufacturer.
  - 2. Remove protrusions, bumps, and ridges by sanding or grinding.
- C. Blending: For tile exhibiting color variations within ranges selected during Sample submittals, verify that tile has been factory blended and packaged so tile units taken from one package show same range of colors as those taken from other packages and match approved Samples. If not factory blended, either return to manufacturer or blend tiles at Project site before installing.

### 3.3 INSTALLATION, GENERAL

- A. ANSI Tile Installation Standards: Comply with parts of ANSI A108 Series "Specifications for Installation of Ceramic Tile" that apply to types of setting and grouting materials and to methods indicated in ceramic tile installation schedules.
- B. TCA Installation Guidelines: TCA's "Handbook for Ceramic Tile Installation." Comply with TCA installation methods indicated in ceramic tile installation schedules.
- C. Extend tile work into recesses and under or behind equipment and fixtures to form complete covering without interruptions, unless otherwise indicated. Terminate work neatly at obstructions, edges, and corners without disrupting pattern or joint alignments.
- D. Accurately form intersections and returns. Perform cutting and drilling of tile without marring visible surfaces. Carefully grind cut edges of tile abutting trim, finish, or built-in items for straight aligned joints. Fit tile closely to electrical outlets, piping, fixtures, and other penetrations so plates, collars, or covers overlap tile.
- E. Jointing Pattern: Lay tile in grid pattern, unless otherwise indicated. Align joints when adjoining tiles on floor, base, walls, and trim are same size. Lay out tile work and center tile fields in both directions in each space or on each wall area. Adjust to minimize tile cutting. Provide uniform joint widths, unless otherwise indicated.
  - 1. For tile mounted in sheets, make joints between tile sheets same width as joints within tile sheets so joints between sheets are not apparent in finished work.
- F. Lay out tile wainscots to next full tile beyond dimensions indicated.



- G. Expansion Joints: Locate expansion joints and other sealant-filled joints, including control, contraction, and isolation joints, where indicated during installation of setting materials, mortar beds, and tile. Do not saw-cut joints after installing tiles.
  - 1. Locate joints in tile surfaces directly above joints in concrete substrates.
- H. Grout tile to comply with requirements of the following tile installation standards:
  - 1. For ceramic tile grouts (sand-portland cement; dry-set, commercial portland cement; and latex-portland cement grouts), comply with ANSI A108.10.

### 3.4 WATERPROOFING MEMBRANE INSTALLATION

- A. Install waterproofing to comply with ANSI A108.13 and waterproofing manufacturer's written instructions to produce waterproof membrane of uniform thickness bonded securely to substrate.
- B. Install crack-suppression membrane to comply with manufacturer's written instructions to produce membrane of uniform thickness bonded securely to substrate.
- C. Do not install tile over waterproofing until waterproofing has cured and been tested to determine that it is watertight.

### 3.5 FLOOR TILE INSTALLATION

- A. General: Install tile to comply with requirements in the Floor Tile Installation Schedule, including those referencing TCA installation methods and ANSI A108 Series of tile installation standards.
  - 1. For installations indicated below, follow procedures in ANSI A108 Series tile installation standards for providing 95 percent mortar coverage.
    - a. Exterior tile floors.
    - b. Tile floors in wet areas.
    - c. Tile floors in damp areas such as basements or cellars.
    - d. Tile floors composed of tiles 6 or larger.
    - e. Tile floors composed of rib-backed tiles.
- B. Joint Widths: Install tile on floors with the following joint widths:
  - 1. Ceramic Mosaic Tile: 1/16 inch (1.6 mm) or to match adjacent wall tile.
  - 2. Quarry Tile: 1/4 inch (6.35 mm)
- C. Stone Thresholds: Install stone thresholds at locations indicated; set in same type of setting bed as abutting field tile, unless otherwise indicated.



1. Set thresholds in latex-portland cement mortar for locations where mortar bed would otherwise be exposed above adjacent nontile floor finish.

- D. Grout Sealer: Apply grout sealer to grout joints according to grout-sealer manufacturer's written instructions. As soon as grout sealer has penetrated grout joints, remove excess sealer and sealer that has gotten on tile faces by wiping with soft cloth.

### 3.6 WALL TILE INSTALLATION

- A. Install types of tile designated for wall installations to comply with requirements in the Wall Tile Installation Schedule, including those referencing TCA installation methods and ANSI setting-bed standards.
- B. Install metal lath and scratch coat for walls to comply with ANSI A108.1A, Section 4.1.
- C. Joint Widths: Install tile on walls with the following joint widths:
  1. Ceramic Mosaic Tile: 1/16 inch (1.6 mm) or to match adjacent wall tile.
  2. Glazed Wall Tile: 1/16 inch min., 1/8" max.

### 3.7 CLEANING AND PROTECTING

- A. Cleaning: On completion of placement and grouting, clean all ceramic tile surfaces so they are free of foreign matter.
  1. Remove grout residue from tile as soon as possible.
  2. Clean grout smears and haze from tile according to tile and grout manufacturer's written instructions, but no sooner than 10 days after installation. Use only cleaners recommended by tile and grout manufacturers and only after determining that cleaners are safe to use by testing on samples of tile and other surfaces to be cleaned. Protect metal surfaces and plumbing fixtures from effects of cleaning. Flush surfaces with clean water before and after cleaning.
  3. Remove temporary protective coating by method recommended by coating manufacturer that is acceptable to tile and grout manufacturer. Trap and remove coating to prevent it from clogging drains.
- B. When recommended by tile manufacturer, apply coat of neutral protective cleaner to completed tile walls and floors. Protect installed tile work with kraft paper or other heavy covering during construction period to prevent staining, damage, and wear.
- C. Prohibit foot and wheel traffic from tiled floors for at least seven days after grouting is completed.
- D. Before final inspection, remove protective coverings and rinse neutral cleaner from tile surfaces.

### END OF SECTION 093000



NEW YORK CITY DEPARTMENT OF  
DESIGN + CONSTRUCTION

FMS No. - PWD99WNY1  
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## SECTION 096400

### WOOD 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. Factory-finished wood flooring.
- 2. Sound control underlayment.

###### B. Related Divisions:

- 1. Division 1
- 2. Division 6
- 3. Division 8
- 4. Division 9

##### 1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Shop Drawings: For each type of floor assembly and accessory. Include plans, elevations, sections, details, and attachments to other work. Include expansion provisions and trim details.
- C. Samples for Initial Selection: Manufacturer's color charts showing the full range of colors and finishes available for wood flooring.
- D. Samples for Verification: For each type of wood flooring and accessory, with stain color and finish required, approximately 12 inches long and of same thickness and material indicated for the Work and showing the full range of normal color and texture variations expected.



#### 1.4 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish extra materials described below, before installation begins, that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
  - 1. Wood Flooring: Equal to 1 percent of amount installed for each type of wood flooring indicated.

#### 1.5 QUALITY ASSURANCE

- A. Hardwood Flooring: Comply with NOFMA's "Official Flooring Grading Rules" for species, grade, and cut.
  - 1. Certification: Provide flooring that carries NOFMA grade stamp on each bundle or piece.
- B. Maple Flooring: Comply with applicable MFMA grading rules for species, grade, and cut.
  - 1. Certification: Provide flooring that carries MFMA mark on each bundle or piece.
- C. Softwood Flooring: Comply with WCLIB No. 17 grading rules for species, grade, and cut.
- D. Build mockup of typical flooring area as shown on Drawings:
  - 1. To set quality standards for sanding and application of field finishes, prepare finish mockup of floor area as shown on Drawings.
  - 2. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
  - 3. Approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

#### 1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver wood flooring materials in unopened cartons or bundles.
- B. Protect wood flooring from exposure to moisture. Do not deliver wood flooring until after concrete, masonry, plaster, ceramic tile, and similar wet work is complete and dry.
- C. Store wood flooring materials in a dry, warm, ventilated, weathertight location.



## 1.7 PROJECT CONDITIONS

- A. Conditioning period begins not less than seven days before wood flooring installation, is continuous through installation, and continues not less than seven days after wood flooring installation.
1. Environmental Conditioning: Maintain an ambient temperature between 65 and 75 deg F and relative humidity planned for building occupants in spaces to receive wood flooring during the conditioning period.
  2. Wood Flooring Conditioning: Move wood flooring into spaces where it will be installed, no later than the beginning of the conditioning period.
    - a. Do not install flooring until it adjusts to relative humidity of, and is at same temperature as, space where it is to be installed.
    - b. Open sealed packages to allow wood flooring to acclimatize immediately on moving flooring into spaces in which it will be installed.
- B. After conditioning period, maintain relative humidity and ambient temperature planned for building occupants.
- C. Install factory-finished wood flooring after other finishing operations, including painting, have been completed.

## 1.8 WARRANTY

- A. Warranty: Manufacturer's standard form, signed by manufacturer, Installer, and Contractor, in which manufacturer agrees to repair or replace that is defective in materials or workmanship.
1. Warranty shall be in effect during the following period of time from date of Substantial Completion:
    - a. One year

## PART 2 - PRODUCTS

### 2.1 PERFORMANCE REQUIREMENTS

- A. FloorScore Compliance: Wood floors shall comply with requirements of FloorScore Standard.



- B. Low-Emitting Materials: Wood flooring systems 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 FACTORY-FINISHED WOOD FLOORING

- A. Solid-Wood Flooring: Kiln dried to 6 to 9 percent maximum moisture content; tongue and groove and end matched; and with backs channeled.

1. List of Manufactures

- a. Acer Flooring LLC
- b. Anderson Hardwood Floors
- c. Carlisle Wide Plank Flooring
- d. Or Approved Equal

2. Species: White oak

3. Cut: Quarter/rift sawn

4. Thickness: 3/4 inch

5. Face Width: 2-1/4 inches

6. Lengths: Random-length strips complying with applicable grading rules

7. Edge Style: Beveled (eased)

8. Finish: UV urethane.

- a. Color: As selected by Commissioner from manufacturer's full range

- B. Engineered-Wood Flooring: HPVA EF, except bonding agent contains no urea formaldehyde.

1. List of Manufactures

- a. Acer Flooring LLC
- b. Anderson Hardwood Floors
- c. Carlisle Wide Plank Flooring
- d. Or Approved Equal

2. Species: White oak

3. Grade: Select

4. Thickness: 1/2 inch

5. Construction: Three ply.

6. Face Width: 2-1/4 inches

7. Length: Manufacturer's standard.

8. Edge Style: Beveled (eased)

9. Finish: UV urethane



- a. Color: As selected by Commissioner in manufacturer's full range

## 2.3 SOUND CONTROL UNDERLAYMENT

- A. Sound Control Underlayment: Sound reducing underlayment consisting of impact-absorbing materials. Minimum Impact Insulation Class (IIC) of 50 when tested according to ASTM E 492.
  1. Material: Wood fiber made with binder containing no urea formaldehyde
  2. Thickness: 3/4 inch

## 2.4 ACCESSORY MATERIALS

- A. Wood Underlayment
- B. Vapor Retarder: ASTM D 4397, polyethylene sheet not less than 6.0 mils (0.15 mm) thick.
- C. Asphalt-Saturated Felt: ASTM D 4869, Type II.
- D. Wood Flooring Adhesive: Mastic recommended by flooring and adhesive manufacturers for application indicated.
  1. Adhesive shall have a VOC content of not more than 100g/L when calculated according to 40 CFR 59, Subpart D (EPA Method 24).
  2. Adhesive 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."
- E. Trowelable Leveling and Patching Compound: Latex-modified, hydraulic-cement-based formulation approved by wood flooring manufacturer.
- F. Fasteners: As recommended by manufacturer, but not less than that recommended in [NWFA's "Installation Guidelines: Wood Flooring."
- G. Thresholds and Saddles: To match wood flooring. Tapered on each side.
- H. Reducer Strips: To match wood flooring. 2 inches wide, tapered, and in thickness required to match height of flooring.
- I. Cork Expansion Strip: Composition cork strip.
- J. Feature Strips: 2-inch- wide, square-edged walnut strips furnished in lengths as long as practical and in thickness to match wood flooring.
- K. Metal Feature Strips: 1/8-by-1/8-inch solid-brass strips designed for inlaying into routed reveal in wood flooring surface.





- L. Wood Air Vents and Grilles: To match wood flooring and in sizes and design indicated on Drawings.

### PART 3 - EXECUTION

#### 3.1 EXAMINATION

- A. Examine substrates, areas and conditions, with Installer present, for compliance with requirements for maximum moisture content, installation tolerances, and other conditions affecting performance of wood flooring.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.
- C. Concrete Slabs: Verify that concrete substrates are dry and moisture-vapor emissions are within acceptable levels according to manufacturer's written instructions.
  - 1. Moisture Testing: Perform tests so that each test area does not exceed 200 sq. ft. and perform no fewer than two tests in each installation area and with test areas evenly spaced in installation areas.
    - a. Perform anhydrous calcium chloride test per ASTM F 1869, as follows:
      - 1) Proceed with installation only after substrates have maximum moisture-vapor-emission rate of 3 lb of water/1000 sq. ft. in 24 hours.
    - b. Perform tests recommended by manufacturer. Proceed with installation only after substrates pass testing.

#### 3.2 PREPARATION

- A. Concrete Slabs: Grind high spots and fill low spots to produce a maximum 1/8-inch (3-mm) deviation in any direction when checked with a 10-foot (3-m) straight edge.
  - 1. Use trowelable leveling and patching compounds, according to manufacturer's written instructions, to fill cracks, holes, and depressions in substrates.
- B. Remove coatings, including curing compounds, and other substances on substrates that are incompatible with installation adhesives and that contain soap, wax, oil, or silicone, using mechanical methods recommended by manufacturer. Do not use solvents.



- C. Broom or vacuum clean substrates to be covered immediately before product installation. After cleaning, examine substrates for moisture, alkaline salts, carbonation, or dust. Proceed with installation only after unsatisfactory conditions have been corrected.

### 3.3 INSTALLATION

- A. Comply with flooring manufacturer's written installation instructions, but not less than applicable recommendations in NWFA's "Installation Guidelines: Wood Flooring."
- B. Wood Sleepers and Subfloor,
- C. Wood Underlayment,
- D. Provide expansion space at walls and other obstructions and terminations of flooring of not less than 3/4 inch
- E. Vapor Retarder: Comply with NOFMA's "Installing Hardwood Flooring" for vapor retarder installation and the following:
  - 1. Wood Flooring Nailed to Wood Subfloor: Install flooring over a layer of asphalt-saturated felt.
  - 2. Wood Flooring Nailed to Sleepers over Concrete: Install flooring over a layer of polyethylene sheet with edges overlapped over sleepers and turned up behind baseboards.
  - 3. Wood Flooring Installed Directly on Concrete: Install a layer of polyethylene sheet according to flooring manufacturer's written instructions.
- F. Sound Control Underlayment: Install over vapor retarder in accordance with manufacturer's written instructions.
- G. Solid-Wood Flooring: Blind nail or staple flooring to substrate.
  - 1. For flooring of face width more than 3 inches (75 mm):
    - a. Install countersunk screws at each end of each piece in addition to blind nailing. Cover screw heads with wood plugs glued flush with flooring.
    - b. Install no fewer than two countersunk nails at each end of each piece, spaced not more than 16 inches (406 mm) along length of each piece, in addition to blind nailing. Fill holes with matching wood filler.
- H. Solid-Wood Parquet Flooring: Set in adhesive in pattern indicated on Drawings.
- I. Engineered-Wood Flooring: Nail or staple



### 3.4 FIELD FINISHING

- A. Machine-sand flooring to remove offsets, ridges, cups, and sanding-machine marks that would be noticeable after finishing. Vacuum and tack with a clean cloth immediately before applying finish.
  - 1. Comply with applicable recommendations in NWFA's "Installation Guidelines: Wood Flooring."
- B. Fill open-grained hardwood
- C. Fill and repair wood flooring seams and defects.
- D. Apply floor-finish materials in number of coats recommended by finish manufacturer for application indicated, but not less than one coat of floor sealer and three finish coats.
  - 1. Apply stains to achieve an even color distribution matching approved Samples.
  - 2. For water-based finishes, use finishing methods recommended by finish manufacturer to minimize grain raise.
- E. Cover wood flooring before finishing.
- F. Do not cover wood flooring after finishing until finish reaches full cure, and not before seven days after applying last finish coat.

### 3.5 PROTECTION

- A. Protect installed wood flooring during remainder of construction period with covering of heavy kraft paper or other suitable material. Do not use plastic sheet or film that might cause condensation.
  - 1. Do not move heavy and sharp objects directly over kraft-paper-covered wood flooring. Protect flooring with plywood or hardboard panels to prevent damage from storing or moving objects over flooring.

**END OF SECTION 096400**



**SECTION 099123**  
**EXTERIOR PAINTING**

**PART 1 - GENERAL**

1.1 Scope of Work

- A. The Contractor shall furnish all labor, materials, tools equipment and services, and perform all operations necessary for surface preparation and the application of paint systems as indicated on the Contract Drawings and as specified herein, including, but not limited to the following substrates:
  - 1. Exterior wood porch
  - 2. Exterior wood columns
  - 3. Exterior wood trim

1.2 Submittals

- A. Product Data: For each type of product indicated, including Material Safety Data Sheets (MSDS), for all products.
- B. Manufacturer's certification that the paints are compatible with the surfaces upon which they will be applied.
- C. Samples for Initial Selection: For each type of topcoat product and color indicated.
- D. Samples for Verification: For each type of paint system and each color and gloss of topcoat indicated.
  - 1. Submit Samples on rigid backing, 8 inches square.
  - 2. Step coats on Samples to show each coat required for system.
  - 3. Label each coat of each Sample.
  - 4. Label each Sample for location and application area.
- E. Product List: For each product indicated, include the following:
  - 1. Cross-reference to paint system and locations of application areas. Use same designations indicated on Drawings and in schedules.
  - 2. Printout of current "MPI Approved Products List" for each product category specified in Part 2, with the proposed product highlighted.



### 1.3 Air Pollution Code Requirements

- A. All paints, solvents, varnish and Commissioner coatings specified in this Contract shall conform to Section 24-148 of the New York City Air Pollution Control Code.
- B. In the event that the precise formulations of the paints, solvents, and Commissioner coatings specified in this Contract do not conform to the New York City Air Pollution Control Code, such formulations shall be modified, subject to the approval of the Commissioner, so as to conform to the requirements of the New York City Air Pollution Control Code.
- C. The Contractor shall furnish the Commissioner with a certification of compliance from the manufacturer that the paints, solvents, and Commissioner coatings conform to the New York City Air Pollution Control Code. This certification shall list the total volume of photo-chemically reactive solvents contained in the particular products.
- D. As provided in the New York City Air Pollution Control Code, the Contractor, subject to the prior consent of the Commissioner, may apply for and obtain a variance permitting the use of materials not conforming to the Code in the performance of the work under this Contract. Two copies of the variance shall be furnished to the Commissioner when obtained. The Contractor will be permitted to use such non-conforming materials in the work provided that the materials for which the variance was obtained are acceptable to the Commissioner.

### 1.4 Quality Assurance

- A. Mockups: Apply benchmark samples of each paint system indicated and each color and finish selected to verify preliminary selections made under sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.
  - 1. Commissioner will select one surface to represent surfaces and conditions for application of each paint system specified in Part 3.
    - a. Provide samples of at least 5 sq. ft.
  - 2. Final approval of color selections will be based on benchmark samples.
    - a. If preliminary color selections are not approved, apply additional benchmark samples of additional colors selected by the Commissioner at no additional cost to the Authority.

### 1.5 Delivery, Storage, and Handling

- A. Store materials not in use in tightly covered containers in well-ventilated areas with ambient temperatures continuously maintained at not less than 45 deg F.
  - 1. Maintain containers in clean condition, free of foreign materials and residue.
  - 2. Remove rags and waste from storage areas daily.



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#### 1.6 Project Conditions

- A. Apply paints only when temperature of surfaces to be painted and ambient air temperatures are between 50 and 95 deg F.
- B. Do not apply paints in snow, rain, fog, or mist; when relative humidity exceeds 85 percent; at temperatures less than 5 deg F above the dew point; or to damp or wet surfaces.

#### 1.7 Extra Materials

- A. Furnish extra materials described below that are from same production run (batch mix) as materials applied and that are packaged for storage and identified with labels describing contents.
  - 1. Quantity: Furnish an additional 5 percent, but not less than 1 gal of each material and color applied.

#### 1.8 Manufacturer's Warranty

- A. Provide manufacturer's standard written warranty for minimum one year beginning from the date of Substantial Completion for the products of this Specification Section detailing the provisions of the warranty coverage.

### **PART 2 - PRODUCTS AND MATERIALS**

#### 2.1 Manufacturers

- A. Manufacturer:
  - 1. Benjamin Moore Paints
  - 2. Sherwin Williams
  - 3. Pittsburg Paints
  - 4. Or approved Equal

#### 2.2 Paint, General

- A. Material Compatibility:
  - 1. Provide materials for use within each paint system that are compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
  - 2. For each coat in a paint system, provide products recommended in writing by manufacturers of topcoat for use in paint system and on substrate indicated.



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- B. Colors: As Selected by Commissioner from manufacturer's full range.

### **PART 3 - EXECUTION**

#### **3.1 Examination**

- A. Examine substrates and conditions, with Applicator present, for compliance with requirements for maximum moisture content and other conditions affecting performance of work.
- B. Maximum Moisture Content of Substrates: When measured with an electronic moisture meter as follows:
- C. Verify suitability of substrates, including surface conditions and compatibility with existing finishes and primers.
- D. Begin coating application only after unsatisfactory conditions have been corrected and surfaces are dry.
  - 1. Commencement of Work (coating application) constitutes Contractor's acceptance of substrates and conditions.

#### **3.2 Preparation**

- A. Comply with manufacturer's written instructions and recommendations
- B. Remove plates, machined surfaces, and similar items already in place that are not to be painted. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and painting.
  - 1. After completing painting operations, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection if any.
  - 2. Do not paint over labels of independent testing agencies or equipment name, identification, performance rating, or nomenclature plates.
- C. Clean substrates of substances that could impair bond of paints, including dirt, oil, grease, and incompatible paints and encapsulants.
  - 1. Remove incompatible primers and reprime substrate with compatible primers as required to produce paint systems indicated.
- D. Cement Masonry Substrates: Remove efflorescence and chalk. Do not paint surfaces if moisture content or alkalinity of surfaces to be painted exceeds that permitted in manufacturer's written instructions.
- E. Steel Substrates: Remove rust and loose mill scale. Clean using methods recommended in writing by paint manufacturer.



- F. Cast-iron Substrates: Remove all existing paint and all existing rust from cast iron.
- G. Galvanized-Metal Substrates: Remove grease and oil residue from galvanized sheet metal fabricated from coil stock by mechanical methods to produce clean, lightly etched surfaces that promote adhesion of subsequently applied paints.

### 3.3 Application

- A. Apply paints according to manufacturer's written instructions.
  - 1. Use applicators and techniques suited for paint and substrate indicated.
  - 2. Paint surfaces behind movable items same as similar exposed surfaces. Before final installation, paint surfaces behind permanently fixed items with prime coat only.
- B. Tint each undercoat a lighter shade to facilitate identification of each coat if multiple coats of same material are to be applied. Tint undercoats to match color of topcoat, but provide sufficient difference in shade of undercoats to distinguish each separate coat.
- C. If undercoats or other conditions show through topcoat, apply additional coats until cured film has a uniform paint finish, color, and appearance.
- D. Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.

### 3.4 Field Quality Control

- A. Testing of Paint Materials: The Commissioner reserves the right to invoke the following procedure at any time and as often as the Authority deems necessary during the period when paints are being applied:
  - 1. The Commissioner will engage the services of a qualified testing agency to sample paint materials being used. Samples of material delivered to Project site will be taken, identified, sealed, and certified in presence of Contractor.
  - 2. Testing agency will perform tests for compliance of paint materials with product requirements.
  - 3. The Commissioner may direct the Contractor to stop applying paints if test results show materials being used do not comply with product requirements. Contractor shall remove noncomplying-paint materials from Project site, pay for testing, and repaint surfaces painted with rejected materials. Contractor will be required to remove rejected materials from previously painted surfaces if, on repainting with complying materials, the two paints are incompatible.





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### 3.5 Cleaning and Protection

- A. At end of each workday, remove rubbish, empty cans, rags, and other discarded materials from Project site.
- B. After completing paint application, clean spattered surfaces. Remove spattered paints by washing, scraping, or other methods. Do not scratch or damage adjacent finished surfaces.
- C. Protect work of other trades against damage from paint application. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Commissioner, and leave in an undamaged condition. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.

**END OF SECTION 099123**



## SECTION 104416

### FIRE EXTINGUISHERS

#### PART 1 - 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. Section includes portable, hand-carried fire extinguishers
- B. City of New York-Furnished Material: Hand-carried fire extinguishers.

##### 1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated. Include rating and classification, material descriptions, dimensions of individual components and profiles, and finishes for fire extinguisher

##### 1.4 INFORMATIONAL SUBMITTALS

- A. Warranty: Sample of special warranty.

##### 1.5 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data: For fire extinguishers to include in maintenance manuals.

##### 1.6 QUALITY ASSURANCE

- A. NFPA Compliance: Fabricate and label fire extinguishers to comply with NFPA 10, "Portable Fire Extinguishers."



- B. Fire Extinguishers: Listed and labeled for type, rating, and classification by an independent testing agency acceptable to authorities having jurisdiction.
  - 1. Provide fire extinguishers approved, listed, and labeled by FMG or an approved equal agency.

#### 1.7 WARRANTY

- A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace fire extinguishers that fail in materials or workmanship within specified warranty period.
  - 1. Failures include, but are not limited to, the following:
    - a. Failure of hydrostatic test according to NFPA 10.
    - b. Faulty operation of valves or release levers.
  - 2. Warranty Period: Six years from date of Substantial Completion.

### PART 2 - PRODUCTS

#### 2.1 PORTABLE, HAND-CARRIED FIRE EXTINGUISHERS

- A. Fire Extinguishers: Type, size, and capacity for each indicated.
  - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
    - a. Amerex Corporation.
    - b. Ansul Incorporated; Tyco International Ltd.
    - c. Badger Fire Protection; a Kidde company.
    - d. Buckeye Fire Equipment Company.
    - e. Fire End & Croker Corporation.
    - f. J. L. Industries, Inc.; a division of Activar Construction Products Group.
    - g. Kidde Residential and Commercial Division; Subsidiary of Kidde plc.
    - h. Larsen's Manufacturing Company.
    - i. Moon-American.
    - j. Pem All Fire Extinguisher Corp.; a division of PEM Systems, Inc.
    - k. Potter Roemer LLC.
    - l. Pyro-Chem; Tyco Safety Products.
    - m. Or approved equal
  - 2. Valves: Manufacturer's standard from the list above or approved equal
  - 3. Handles and Levers: Manufacturer's standard from the list above or approved equal.



- B. Regular Dry-Chemical Type in Steel Container UL-rated 2-B:C, 1-lb nominal capacity, with sodium bicarbonate-based dry chemical in enameled-steel container.

### **PART 3 - EXECUTION**

#### **3.1 EXAMINATION**

- A. Examine fire extinguishers for proper charging and tagging.
  - 1. Remove and replace damaged, defective, or undercharged fire extinguishers.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

#### **3.2 INSTALLATION**

- A. General: Install fire extinguishers in locations indicated and in compliance with requirements of authorities having jurisdiction.

**END OF SECTION 104416**



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Project Title: Center for the Women of New York  
Fort Totten, Bayside, NY 11359

FIRE EXTINGUISHERS  
104416-4



## SECTION 144250

### VERTICAL WHEELCHAIR LIFTS

#### PART 1 GENERAL

##### 1.1 SECTION INCLUDES

- A. Unenclosed, self-contained vertical platform wheelchair lift.

##### 1.2 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 061053 - Rough Carpentry: Blocking in framed construction for lift attachment.
- C. Section 092900 - Gypsum Board Assemblies: Gypsum board shaftway.
- D. Division 26 - Electrical: Dedicated telephone service and wiring connections.
- E. Division 26 - Electrical: Lighting and wiring connections at top of shaft.
- F. Division 26 - Electrical: Electrical power service and wiring connections.

##### 1.3 REFERENCES

- A. ASME A17.1 - Safety Code for Elevators and Escalators.
- B. ASME A17.5 - Elevator and Escalator Electrical Equipment.
- C. ASME A18.1 - Safety Standard for Platform Lifts and Stairway Chairlifts.
- D. CSA B44 - Safety Code for Elevators and Escalators.
- E. CSA B355 - Lifts for Persons with Physical Disabilities.



- F. ICC/ANSI A117.1 - Accessible and Usable Buildings and Facilities.
- G. NFPA 70 - National Electric Code.
- H. CSA - National Electric Code.

#### 1.4 SUBMITTALS

- A. Product Data: Manufacturer's data sheets on each product to be used, including:
  - 1. Submit manufacturer's installation instructions, including preparation, storage and handling requirements.
  - 2. Include complete description of performance and operating characteristics.
  - 3. Show maximum and average power demands.
- B. Shop Drawings:
  - 1. Show typical details of assembly, erection and anchorage.
  - 2. Include wiring diagrams for power, control, and signal systems.
  - 3. Show complete layout and location of equipment, including required clearances and coordination with shaftway.
- C. Selection Samples: For each finished product specified, provide two complete sets of color chips representing manufacturer's full range of available colors and patterns.
- D. Verification Samples: For each finished product specified, two samples, minimum size 6 inches (150 mm) square, representing actual product, color, and patterns.

#### 1.5 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Firm with minimum 3 years experience in manufacturing of vertical platform lifts, with evidence of experience with similar installations of type specified.
- B. Installer Qualifications: Licensed to install equipment of this scope, with evidence of experience with specified equipment. Installer shall maintain an adequate stock of replacement parts, have qualified people available to ensure fulfillment of callback service without unreasonable loss of time in reaching project site.

#### 1.6 REGULATORY REQUIREMENTS

- A. Provide platform lifts in compliance with:
  - 1. ASME A18.1 - Safety Standard for Platform Lifts and Stairway Chairlifts.
  - 2. ASME A17.1 - Safety Code for Elevators and Escalators.
  - 3. ASME A17.5 - Elevator and Escalator Electrical Equipment.
  - 4. NFPA 70 - National Electric Code.



- B. Provide platform lifts in compliance with:
1. CSA B355 - Lifts for Persons with Physical Disabilities.
  2. CSA B44.1/ASME A17.5 - Elevator and Escalator Electrical Equipment.
  3. CSA - National Electric Code.

#### 1.7 DELIVERY, STORAGE, AND HANDLING

- A. Store products in manufacturer's unopened packaging until ready for installation.
- B. Store components off the ground in a dry covered area, protected from adverse weather conditions.

#### 1.8 PROJECT CONDITIONS

- A. Do not use wheelchair lift for hoisting materials or personnel during construction period.

#### 1.9 WARRANTY

- A. Warranty: Manufacturer shall warrant the wheelchair lift materials and workmanship for one year following completion of installation.

### PART 2 PRODUCTS

#### 2.1 MANUFACTURERS

- A. Acceptable Manufacturers:
1. Garaventa Lift; United States - P.O. Box 1769, Blaine, WA 98231-1769. Canada - 7505 134A St., Surrey, BC V3W 7B3. ASD. Toll Free: 800-663-6556. Tel: (604) 594-0422. Fax: (604) 594-9915. Email: [tmorisset@garaventa.ca](mailto:tmorisset@garaventa.ca). Web [www.garaventa.ca](http://www.garaventa.ca).
  2. Handi-Lift, 730 Garden Street, Carlstadt NJ 07072, Toll Free: (800) 432-LIFT Local: (201) 933-0111, Fax: (201) 933-0050, Email: [sales@handi-lift.com](mailto:sales@handi-lift.com) Web- [www.handi-lift.com](http://www.handi-lift.com)
  3. Westchester Stairlift LLC, 24 Lester Place, New Rochelle, New York, 10804, Tel: 914-709-5438, Email: [Westchesterstairlift@gmail.com](mailto:Westchesterstairlift@gmail.com)
  4. Or Approved Equal





## 2.2 UNENCLOSED VERTICAL WHEELCHAIR LIFT

- A. Capacity: 750 lbs (340 kg) rated capacity.
- B. Basis of Design Mast Height:
  - 1. Model GVL-OP-42; 45 inches (1143 mm) maximum lifting height.
  - 2. Model GVL-OP-60; 63 inches (1600 mm) maximum lifting height.
- C. Platform Size and Nominal Clear Platform Dimensions:
  - 1. Standard: 36 inches (914 mm) by 48-7/8 inches (1242 mm) clear platform dimensions.
  - 2. Mid-Size: 36 inches (914 mm) by 54-7/8 inches (1394 mm) clear platform dimensions.
  - 3. Large: 43-1/4 inches (1100 mm) by 60-7/8 inches (1546 mm) clear platform dimensions.
  - 4. Large 90 degree: 43-1/2 inches (1104 mm) by 58-1/2 inches (1485 mm) with 90 degree entry/exit configuration.
- D. Platform Configuration:
  - 1. Straight Through: Front and rear openings.
  - 2. 90 Degree: Front and side openings.
- E. Landing Openings: Gates shall be self closing type.
  - 1. Gate Height: 42-1/8 inches (1070 mm).
  - 2. Gate Width: 41-3/4 inches (1060 mm).
  - 3. Platform Gate: Travels with platform and opens at lower landing.
  - 4. Upper Landing Gate: Detached, freestanding type.
- F. Power Gate Operators:
  - 1. Location:
    - a. Platform Gate: Travels with platform and opens lower landing.
    - b. Upper Landing Gate.
  - 2. Automatically opens the gate when platform arrives at a landing. Will also open at landing by pressing call button or gently pulling the gate.
  - 3. ADA Compliant and obstruction sensitive.
  - 4. Low voltage, 24 VDC with all wiring concealed.
- G. Lift Components:
  - 1. Machine Tower: Custom aluminum extrusion.
  - 2. Base Frame: Structural steel.
  - 3. Platform Side Wall Panels: 16 gauge (1.5 mm) galvanized steel sheet.
  - 4. Platform Access Ramp: 12 gauge (2.5 mm) galvanized steel plates; slip resistant surfaces.
    - a. Ramp: Stationary type.
    - b. Ramp: Automatic folding type.
  - 5. Side Guard Panels: 42-1/8 inches (1070 mm) high mounted on platform.



6. Outdoor Protection: Lift shall include modifications recommended by manufacturer for reliable performance in outdoor climate of project site.
- H. Base Mounting at Lower Landing:
1. Pit Mount: Lift to be mounted in pit with dimensions to meet manufacturer's requirements for the platform size specified.
- I. Leadscrew Drive:
1. Drive Type: Self-lubricating acme screw drive.
  2. Emergency Operation: Manual handwheel device to raise or lower platform.
  3. Battery Powered Emergency Lowering: Battery powered platform lowering device that automatically activates in the event of power failure. Allows passenger to drive platform downward to lower landing. Does not operate lift in up direction.
  4. Safety Devices:
    - a. Integral safety nut assembly with safety switch.
  5. Travel Speed: 10 fpm (3.0 m/minute).
  6. Motor: 2.0 hp (560 W).
  7. Power Supply:
    - a. 120 VAC single phase; 60 Hz on a dedicated 20 amp circuit.
    - b. 208/240 VAC, single phase; 50 Hz on a dedicated 16 amp circuit.
- J. Hydraulic Drive:
1. Drive Type: Chain hydraulic.
  2. Emergency Operation: Manual device to lower platform and battery auxiliary power to raise or lower platform.
  3. Safety Devices:
    - a. Slack chain safety device.
    - b. Shoring device.
  4. Travel Speed: 17 fpm (5.2 m/minute).
  5. Motor: 3.0 hp (2.2 kW); 24 volts DC.
  6. Power Supply:
    - a. 120 VAC single phase; 60 Hz on a dedicated 15 amp circuit.
    - b. 208/240 VAC, single phase; 50 Hz on a dedicated 16 amp circuit.
    - c. Powered by continuous building mains converted to 24 VDC, equipped with auxiliary power system capable of running lift up and down for a minimum of 5 trips with rated load.
    - d. Powered by continuously charged battery system.
- K. Platform Controls: 24 VDC control circuit with the following features.
1. Direction Control: Constant pressure rocker switch.
  2. Illuminated and audible emergency stop switch shuts off power to lift and activates audio alarm with battery backup.
  3. Keyless operation.
  4. Keyed operation.



5. Emergency Telephone: Platform shall be equipped with ADA compliant autodialer telephone with a stainless steel faceplate. Telephone shall operate in the event of power failure. A telephone line shall be supplied to the lift site as specified under Division 26.
  6. Arrival Gong and Digital Floor Display.
- L. Call Station Controls: 24 VDC control circuit with the following features.
1. Direction Control:
    - a. Constant pressure rocker switch.
    - b. Elevator style with illuminated and tactile buttons.
  2. Keyless operation.
  3. Keyed operation.
  4. Call Station Mounting:
    - a. Lower:
      - 1) Wall mounted surface.
    - b. Upper:
      - 1) Frame mounted.
      - 2) Wall mounted surface.
- M. Safety Devices and Features:
1. Grounded electrical system with upper, lower, and final limit switches.
  2. Tamper resistant interlock to electrically monitor that the gate is in the closed position and the lock is engaged before lift can move from landing.
  3. Pit stop switch mounted on mast wall.
  4. Electrical disconnect shall shut off power to the lift.
  5. Under platform safety pan with five waterproof safety switches to detect obstruction under platform.
- N. Finishes
1. Aluminum Extrusions: Champagne anodized finish.
  2. Ferrous Components: Electrostatically applied baked powder finish, fine textured.
    - a. Color: Satin Grey, RAL 7030.
  3. Lift Finish: Baked powder coat finish as selected by the Commissioner from manufacturer's optional RAL color chart.

### **PART 3 EXECUTION**

#### **3.1 EXAMINATION**

- A. Do not begin installation until substrates have been properly prepared.
- B. Verify shaft and machine space are of correct size and within tolerances.
- C. Verify required landings and openings are of correct size and within tolerances.
- D. Verify electrical rough-in is at correct location.



- E. If substrate preparation is the responsibility of another installer, notify Commissioner of unsatisfactory preparation before proceeding.

### 3.2 PREPARATION

- A. Clean surfaces thoroughly prior to installation.
- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

### 3.3 INSTALLATION

- A. Install platform lifts in accordance with applicable regulatory requirements including ASME A 17.1, ASME A 18.1 and the manufacturer's instructions.
- B. Install platform lifts in accordance with applicable regulatory requirements including CSA B355, and manufacturer's instructions.
- C. Install system components and connect to building utilities.
- D. Accommodate equipment in space indicated.
- E. Startup equipment in accordance with manufacturer's instructions.
- F. Adjust for smooth operation.

### 3.4 FIELD QUALITY CONTROL

- A. Perform tests in compliance with ASME A 17.1 or A18.1 and as required by authorities having jurisdiction.
- B. Perform tests in compliance with CSA B355 and required by authorities having jurisdiction.
- C. Schedule tests with agencies and Commissioner, City of New York, and Contractor present.

### 3.5 PROTECTION

- A. Protect installed products until completion of project.
- B. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION 144250



NEW YORK CITY DEPARTMENT OF  
DESIGN + CONSTRUCTION

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## SECTION 21 05 11

### COMMON WORK RESULTS FOR FIRE PROTECTION

#### PART 1 – GENERAL

##### 1.01 GENERAL REQUIREMENTS

- 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. Work of this Section, as shown or specified, shall be in accordance with the requirements of the Contract Documents.

##### 1.02 WORK INCLUDED

- A. Work of this Section includes all labor, materials, equipment, hoisting and rigging, scaffolding and services necessary to complete the Fire Protection Work as shown on the drawings and specified herein, including, but not limited to, the following:
  - 1. Shop drawings and samples.
  - 2. Record and as-built drawings.
  - 5. Sprinklers.
  - 6. Controls and control wiring regardless of voltage.
  - 7. Testing of systems.
  - 8. Hydraulic calculations.

##### 1.03 WORK NOT INCLUDED

- A. Temporary fire protection during construction.
- B. Finished painting.
- C. Electrical power wiring.



- D. Installing access doors.

#### 1.04 CONTRACTOR'S RESPONSIBILITY

- A. Contract drawings for plumbing work are diagrammatic, intended to convey the scope of work and indicate general arrangement of equipment, piping and approximate sizes and locations of equipment outlets. Plumbing trade shall follow these drawings in layout of their work, consult general construction, structural and electrical and automatic sprinkler drawings to familiarize themselves with all conditions affecting their work, and shall verify spaces in which their work will be installed. The drawings indicate size, connections points, and routes of piping. It is not intended however, that all offsets, rises, and drops are shown.
- B. Verify with the Commissioner, any item of piping or piping arrangement, which may be incomplete, incorrect or indefinite. After contract is let, the Commissioner's decision shall be final.
- C. All trades shall cooperate and confer with each other as to locations of their materials and equipment before erecting work, so as to avoid interference as much as possible, and in such manner that will in no way retard progress of construction. In instances where interferences develop, relocate the work as required by Commissioner, regardless of which work was installed first.
- D. Additional and supplemental drawings may, from time to time, be furnished and the same when made are to constitute a part of the original contract drawings and will not depart materially there from.
- E. The Commissioner specifically reserves the right, up to the time of roughing-in, to exactly define the position of the equipment to be installed and connected to and arrangement of these connections.
- F. Special attention is called to the contract drawings and specifications involving general construction, electrical work and details thereon. Bidders are notified to carefully scrutinize these documents for the details affecting the performance of the mechanical trades.
- G. Minor Piping: Generally, small diameter pipe runs from drips and drains, water cooling, and other service are not shown but must be provided.

#### 1.05 SITE INSPECTION

- A. Bidders may visit the job site and become thoroughly familiar with the conditions under which the work will be performed. The submission of a proposal shall be construed as evidence that the bidder has visited the site and has knowledge of site conditions. Any later claim for extra payment because of difficulties encountered will not be allowed.



1.06 CARE OF WORK AND SAFEGUARDS

- A. Protect the work from damage by any cause until it is completed and accepted by the Owner.
- B. Protect from damage any underground service or structure exposed by the execution of this work.
- C. Any damaged property resulting from work performed either by this Contractor, his subcontractors, or anyone in his employ shall be repaired and restored to its original state at no cost to the Owner.

1.07 SCHEDULE OF WORK

- A. Schedule all work to conform to the job progress schedule as submitted to and approved by the Commissioner.

1.08 SUBMITTALS

- A. Approval shall be obtained for all equipment and material before delivery to the job site. Delivery, storage or installation of equipment or material, which has not had prior approval, will not be permitted at the job site.
- B. All submittals shall include adequate descriptive literature, catalog cuts, shop drawings and other data necessary ascertain that the proposed equipment and materials comply with specification requirements. Catalog cuts submitted for approval shall be legible and shall clearly identify equipment being submitted.
- C. A minimum period of ten (10) working days, exclusive of transmittal time, will be required in the Engineer's office each time a shop drawing, product data and/or samples is submitted for review. This time period must be considered by the Contractor when scheduling his work.
- D. Submittals for individual systems and equipment assemblies, which consist of more than one item or component, shall be made for the system or assembly as a whole. Partial submittals will not be considered for approval.
- E. Submittals shall be marked to show specification reference including the section and paragraph numbers.
- F. Submit each section separately and include the following:
  - 1. Information, which conforms to contract requirements. Include the manufacturer's name, model or catalog numbers, catalog information, technical data sheets, shop drawings, pictures, nameplate data and test reports as required.





2. Submittals on all pumps shall be complete with performance curves marked with the design points. Additionally, submittals for any pumps that are in series or parallel with other pumps shall include compounded performance curves for analysis by the Commissioner.
  3. Submittals on electrical equipment shall be complete with all power and control wiring diagrams.
- G. Submit samples as directed of items called for in the specifications; samples of the materials, which the manufacturer will actually ship, shall be submitted for approval after award of contract and be properly labeled or identified.
- H. Submit a minimum of three (3) hard copies of all shop drawings and submittals for Engineer's review.

#### 1.09 SHOP DRAWINGS

- A. Submit shop drawings to Commissioner for review in accordance with the requirements of the contract documents, and as specified in other sections of this specification.

#### 1.10 SHOP DRAWINGS AND COMPOSITE DRAWINGS

- A. Promptly prepare and submit all shop drawings required by the specifications, contract and contract drawings, and also all incidental shop drawings required for the proper performance of the work. The shop drawings shall illustrate fully the requirements of the specifications and the contract drawings, and shall accurately show quantities, kind of materials, methods of assembly and all data required for fabrication, erection and installation. The relationship to adjoining work, whether furnished under other subdivisions of this contract or by other contractors, shall be properly shown.
1. The Contractor shall prepare underground plumbing drawings and demonstrate coordination with all foundation and underground utilities.
- B. The HVAC Contractor shall be responsible for coordinating the installation work of all the Mechanical Contractors (HVAC, Plumbing and Electrical Work) by means of composite shop drawings as specified herein.
- C. The composite shop drawings shall be constituted in the following manner: HVAC Contractor shall prepare a set of sepia transparencies drawn to the scale of  $3/8" = 1'-0"$ , indicating thereon all ductwork, major piping, plus structural and architectural background details. He shall deliver this set of sepias to the Contractor for Plumbing and Sprinkler who will draw his work to scale on the sepias. Then the HVAC Contractor shall deliver this set of sepias to the Contractor for Electrical Work who will superimpose his work on the drawings. The specified order in which the Contractors impose their work on the sepias. Then the HVAC Contractor shall deliver this set of sepias to the Contractor for Electrical Work who will superimpose his work on the drawings. The



specified order in which the Contractors impose their work on the sepias is not intended to grant priority to any one Contractor in the allocation of space.

- D. At the completion of this phase, hold a coordination meeting with the other Contractors to eliminate any interference among the trades that the drawings indicate and to avoid any conflicts in installing the work. If the Contractors are unable to reach agreement on a matter of interference among the mechanical trades, the matter shall be submitted to the Commissioner for his binding decision. After the set of sepias has been coordinated and all necessary changes have been made, each Mechanical Contractor shall sign the drawings, attesting to his agreement that all work is clear.
- E. The Contractor is advised of the requirements of beam cuts for piping. Exercise special care in coordination of work between the Mechanical and Structural trades.

#### 1.11 OPERATION, MAINTENANCE MANUALS AND INSTRUCTIONS

- A. Furnish to the Commissioner six (6) bound and indexed copies of the final approved installation, operations and maintenance manuals.
- B. Manual Contents:
  - 1. Comprehensive detailed information on the approved installation, operation and use, troubleshooting, parts list, lubrication and periodic maintenance, together with the source of replacement parts and service for the items of equipment and the systems covered, including electrical equipment, devices and systems.
  - 2. Where items of equipment or system work in conjunction with one another, the interconnections shall be shown on a single sheet, folded out if necessary. A schematic wiring diagram and a description of operation shall be included.
  - 3. Where separate items of equipment specified herein are combined into a single self-contained unit, the drawings and required data shall treat each item of equipment in such self-contained unit as separate items. Referring to such self-contained unit as one item of equipment will not be acceptable.
- C. At the completion of the work, instruct the employees who will have charge of the equipment in the care, adjustment and operation of each piece of equipment. Instruction shall be by competent representatives of the manufacturers involved with adequate time allowed for complete coverage of all owning and operating procedures.
- D. In addition, leave with such employees printed instructions covering the operation and required maintenance of each particular piece of equipment. Instructions shall be bound and titled and submitted to the Commissioner for approval. Submit six (6) sets.

#### 1.12 CODES AND STANDARDS



- A. Work performed under this Contract shall conform to all applicable laws, ordinances, regulations, codes (state, local and federal), and shall be subject to control of public authorities having jurisdiction.
- B. Wherever requirements of such laws, codes, regulations differ from the drawings or specifications, they shall take precedence over the drawings specifications, and are expressly made part of the Contract, except where the drawings or specifications are more stringent or require better materials, which would also be acceptable to authorities (i.e., the more stringent code shall always apply).
- C. Any portion of work which is not subject to the approval of an authority having jurisdiction shall be provided in accordance with National Fire Protection Association requirements.
- D. Comply with applicable utility company rules and regulations.
- E. Comply with Occupational Safety and Health Act (OSHA) requirements.

#### 1.13 FEES AND PERMITS AND INSPECTIONS

- A. The Contractor shall secure all permits and pay all fees required by local and state governing bodies necessary to complete the construction. Failure to investigate all applicable payments before the bid submission shall not constitute grounds for additional monies from the Owner. The Owner shall be furnished with all certificates of approval.

#### 1.14 INSPECTIONS, PROGRESS INSPECTIONS, SPECIAL INSPECTIONS AND TESTING

- A. The following inspections, tests, progress inspections and special inspections shall be considered part of the contract work.
- B. Upon completion or partial completion of the permitted plumbing work, inspections, progress inspections, special inspections and tests shall be conducted by approved agencies or special inspectors qualified to conduct such inspections and tests. Inspections and progress inspections shall be performed in compliance with section BC 109 of the New York City Building Code. Special inspections shall be performed in compliance with sections BC 1704 and BC 1707 of the New York City Building Code for all fire protection systems regulated by the New York City Building Code. Refer to article 116 of Chapter 1 of Title 28 of the Administrative Code for additional provisions related to inspections.

#### 1.15 REFERENCE DOCUMENTS AND STANDARDS

- A. Accepted plumbing standards and organization whose abbreviations are used to identify such standards are listed below:



1. A.N.S.I., American National Standards Institute, Inc.
2. C.S., Commercial Standard – National Bureau of Standards.
3. F.S., Federal Specifications.
4. N.S.F., National Sanitation Foundation Testing Laboratory, Inc.
5. N.F.P.A., National Fire Protection Association.
6. U.L., Underwriters Laboratories.
7. F.M., Factory Mutual

#### 1.16 GUARANTEE

- A. In addition to the requirements stated in the specifications, guarantee all equipment, materials and appurtenances installed to be free from all defects. Upon written notice from the Commissioner, promptly correct all defects without additional cost to the Owner. Make good, at no extra cost any defects in materials or workmanship that may appear. The guarantee period shall be from one (1) year after final inspection and acceptance of the project.

#### 1.17 WASTE MANAGEMENT

- A. Comply with the requirements established by the General Contractor to separate and recycle, salvage or reuse cast-offs, surplus and waste material in accordance with the Waste Management Plan.
- B. Arrange for suppliers to take back shipping and packing materials for reuse or recycling to the maximum extent economically feasible, or include them in the Waste Management Plan.

### PART 2 – PRODUCTS

#### 2.01 PRODUCT HANDLING

- A. In addition to the requirements of the General Conditions, the Contractor shall be responsible for the following:
  1. Responsibility for care and protection of plumbing work rests with the Contractor until it has been tested and accepted.



2. After delivery, before, during and after installation, protect equipment and materials against theft, injury and damage for all causes.
  3. Coat polished or plated metal part with Petroleum jelly immediately after installation.
  4. Protect equipment outlets and pipe, openings with caps.
- B. Receive, properly house, handle, hoist, deliver to proper location, equipment and other material required for the contract.
- C. Cleanliness of Piping and Equipment Systems:
1. Care shall be exercised in the storage and handling of equipment and piping material to be incorporated in the work. Debris arising from cutting, threading and welding of piping shall be removed.
  2. Piping systems shall be flushed, blown or pigged as necessary to deliver clean systems.
  3. The interior of all tanks shall be cleaned prior to delivery and beneficial use by the Government. All piping shall be tested in accordance with the specifications and the International Plumbing Code (IPC), latest edition. All filters, strainers, fixture faucets shall be flushed of debris prior to final acceptance.
  4. Contractor shall be fully responsible for all costs, damage, and delay arising from failure to provide clean systems.

## 2.02 MATERIALS

- A. Design:
1. Unless otherwise specified, equipment or material of same type or classification, used for the same purpose, shall be products of the same manufacturer. All material shall be new and of the latest design of manufacturer providing equipment or materials.
  2. Equipment and accessories not specifically described or identified by manufacturer's catalog numbers shall be designed in conformity with ASME, or other applicable technical standards, suitable for maximum working pressure and shall have neat and finished appearance.
  3. Manufacturers of equipment assemblies, which use components made by others, assume complete responsibility for the final assembled product.
- B. Electrical Characteristics:



1. It shall be the responsibility of this Contractor to ensure that the voltage and current characteristics of the electrical equipment furnished by him shall be suitable for the electrical services as specified.
- C. Lubricating Devices:
1. Provide oil level gauges, grease cups, grease gun fittings for machinery bearings as recommended by machinery manufacturer; where lubricating means are not easily accessible, extend to accessible, extend to accessible locations. Furnish all grease gun fittings of uniform type.
- D. Belt Guards:
1. Provide guards to enclose belts, pulleys, sheaves or belt-driven equipment. Construct of galvanized expanded or perforated sheet steel, or 1" mesh wire screen in angle frame with steel angle or channel mounting supports; make guard easily removable for access to belt, pulley or sheave. Conform to codes or regulations of agencies having jurisdiction. Provide access holes for tachometers.

### 2.03 SLEEVES

- A. Extend through new construction.
1. For Insulated Piping: Sized to allow for insulation.
- B. No. 22 USSG galvanized iron through:
1. Interior floor slabs.
  2. Ceilings.
  3. Walls and partitions.
- C. Protect pipes passing through floors with membrane waterproofing and roofs with Schedule 40 pipe extensions (not sheet metal) and provide "Zurn Z-197", "Jay R. Smith 1760", "Josam 1880", or approved equal, with cast iron integral flashing flange and clamping ring waterproof type pipe sleeves. For membraned floors, fill void between sleeve and pipe with mineral wool and then seal the top with mastic to prevent sound transmission. Sleeves for Penetrations of the Metal Deck (where applicable): Nail, Cut or drill the metal deck after the deck is poured. Set sleeves in such a manner so that no concrete fills their interior during the concrete pouring and screening operations.
- D. Sleeves for Reinforced Concrete Walls and in Concrete Beams: Standard weight galvanized steel pipe with anchor flanges. Sleeves through Toilet Rooms and any other such Wet Area Floors: Iron pipe size brass. Caulk floor sleeves for exposed pipes watertight and project approximately 2" above the finished floor so that the plate will



properly fit over same. Finish sleeves flush with the bottom of slab and also with the finished faces of wall.

- E. Provide sleeves with an inside diameter at least 1/2" greater than outside of pipe served, including pipe insulation which must be continuous through sleeve.
- F. Do not support pipes by resting clamps on sleeves. Clamps must extend beyond sleeve and be supported outboard of sleeve in an approved manner.

#### 2.04 EXTERIOR WALL/PIPE PENETRATIONS

- A. Underground pipe through wall penetrations shall be sealed with positive hydrostatic seals. The modular mechanical seals shall consist of interlocking rubber links shaped to continuously fill the annular space between the pipe and wall opening. The seals shall be "LINK SEALS" as manufactured by Thunderline Corporation of Wayne, Michigan or an approved equal. Caulking or other type of mastic sealants or lead or oakum joints are not acceptable. The Contractor shall determine the required inside diameter of each wall opening or sleeve to fit the pipe LINK SEAL. The LINK SEAL size and model shall be as recommended by the manufacturer's instructions.

- 1. Seal: Type "C".

#### 2.05 ESCUTCHEONS

- A. Cast iron or cast brass set screw type.
- B. Pressed steel.
- C. For exposed piping through floors or walls.
- D. Finish at exposed walls: Chrome plated.

#### 2.06 NAMEPLATES AND DEVICE PLATE MARKINGS

- A. Install nameplates on all electrical equipment supplied under his Contract. This shall include all safety switches, motor starting switches, motor starters, control cabinets, panels, temperature motor control centers, and unit substations designating the equipment served.
- B. Plates shall be laminated plastic 1/2" x 2" or larger in dimension, fastened with counter sunk oval head chrome plated machine screws. Lettering shall be 3/16" high engraved black on white plated.

(Nameplates shall be plastic glued back punched letters as produced by Dymo labeling devices. Letters shall be 1/4" high).

- C. Submit an itemized schedule of proposed markings for approval.



2.07 PIPE SUPPORTS, HANGERS, AND INSERTS

- A. Provide one of the following types of hanger for overhead support of horizontal piping:
1. For copper tubing where hangers are in direct contact with tubing, use clevis type steel hanger, copper plated with supporting rod to suit.
  2. For all piping 2 1/2" and larger: Use clevis type hangers.
  3. Piping 2" and smaller: Swivel ring type.
  4. Provide supporting rods for hangers of diameter as indicated and where not indicated, as specified under "Horizontal Pipe Supports Schedule" hereinafter, of lengths as required, with double locknuts for each.
- B. Where hanger rods leave unsightly holes in ceilings in finished areas, provide steel ceiling plates or cast iron ceiling plates with set screw.
- C. Provide one of the following to support horizontal piping from wall:
1. Where no provision for expansion and contraction is required and pipe can be located close to wall, use steel J-hook, suitable for pipe sizes up to 3".
  2. For hanger suspension, 750 lb. maximum loading, use light welded steel bracket with hole for one rod up to 3/4" diameter. For additional rod suspension, use with this bracket steel clip for pipe sizes up to 3".
- D. Vertical piping supports for copper tubing where hangers are in direct contact with tubing, use copper tubing riser clamps. For steel cast iron pipe use steel extension pipe clamps.
- E. Where beam clamps are required, use malleable iron "C" clamps with case hardened cup pointed set screw and retaining strap or beam clips as required or directed.
- F. Concrete inserts shall be approved for local use and shall be black malleable iron universal type, for threaded connections with lateral adjustment, top slot for reinforcing rods, lugs for attaching to forms.
- G. All insulated pipe shall be protected at supports by pipe saddles. Pipe saddles for use on hangers shall be Insul-Shield pipe saddles as manufactured by Insul-Coustic Corp. or approved equal.
- H. Steel anchors of an approved design shall be provided where indicated or required for proper control of stress in piping due to expansion. Anchors shall be made of structural





materials of heavy cross section and securely fastened to building construction. Submit detail drawings of approval installation.

- I. Provide pipe alignment guides where indicated, required or directed, to guide the expanding pipe to move freely from anchor points in expansion joints, loops or bends. Construct with angles or channels. Submit detail drawings for approval before installation.
- J. Acceptable Manufacturers
  - 1. Pipe supports shall of the following type and figure number, manufactured by C&P, F&M, Grinnell, or equal as approved:
  - 2. Pipe Hanger Schedule:

	C&P	F&M	Grinnell
Beam Clamp	268	282	----
Clevis Hanger	100	239	260
180° Shield	265P	80	----
Pipe Saddle	351	170 & 180 series	1700 series
Rigid Trapeze U-Bolt	371 382	176	Std. 45 137
Riser Clamp	89 or 126	241	261
Double Bolt Pipe Clamp	304	261	295
Welding Beam Attachment	113B	751	66
Insert	650	----	280
Continuous Slotted Insert	1480	190	----

- 3. Insulation Protection

For all insulated pipe furnish clevis hangers with welded shields and equal to C&P, Inc., Fig. 100-SH.

- K. Pipe Supports in Pipe Chases

Supports shall securely hold piping, prevent vibration, etc. Provide pipe supports and channels as required made grade KJA Cicolac DH self-extinguishing ABS as manufactured by the Summer Corporation or equal.

## 2.08 PAINT MATERIALS

- A. Factory mixed and delivered to the premises in original sealed containers, with unbroken seals. Containers shall bear the name and trade brand of the manufacturer and must indicate compliance with Federal Specifications, as noted below. Materials shall be approved by the Owner before they are used. Before beginning the painting work submit



an affidavit to the Owner stating that all materials proposed comply with this specification.

- B. Materials shall comply with the requirements of Federal Specification TT sections as follows:

Aluminum Paint (ready mixed)	P-0038c
Asphaltum Paint	V-51c
Black Paint	P-61d
Colors in Oil	P-381c(2)
Enamel Undercoat	E-543a
Galvanized Iron Primer	P-6411f
Gloss Enamel	E-489f
Iron (Red) Oxide	P-31c
Latex Base Paint	P-29h
Lead, Zinc and Titanium Paint	P-102b
Turpentine	T-801c
Zinc Chromate Primer	P-636b

### PART 3 - EXECUTION

#### 3.01 SUPERVISION

- A. All work shall be performed by competent mechanics under supervision of an experienced erection supervisor. Upon initiation of construction, keep a suitable force for men (including supervisory personnel) on the site at all times in order to place all sleeves, inserts, and fixtures, and provide all other openings as are required for the satisfactory installation of equipment.

#### 3.02 COORDINATION

- A. Schedule construction and time limitations for each phase of the work. Work shall be coordinated to permit proper setting of the work of other trades.
- B. Where piping work and appurtenances are in place prior to completion of adjacent concrete and masonry work, they must be protected against damage and displacement until construction is completed.

#### 3.03 CUTTING AND PATCHING

- A. Cutting:
1. Provide sleeves for all items furnished and set in new construction. Sleeves in exterior walls or located where moisture must be restricted shall consist of schedule 40 black steel pipe cut to match thickness of wall or floor. 1/4" thick



steel plate extending 2" beyond the outside diameter shall be continuously welded midway of the length of the sleeve. Pipe or conduit shall be accurately centered within the sleeve. The remaining annular space shall not be less than 1/2" for pipe up to 3", 3/4" for pipe greater than 3". Impregnated rope shall be packed in, at both ends to a point giving a 2" recess in the annular space. The remaining 2" recess shall be sealed with a resilient, non-hardening sealer, Tremco Mono-Lasto-Meric or approved equal.

2. Cutting, chasing, or core drilling in the existing building shall be done by this Contractor. Where existing foundations or walls below grade are involved, specific instructions shall first be obtained from the Commissioner.
3. Holes through concrete and masonry shall be cut by rotary core drill. Pneumatic hammer, impact electric, and hand or manual hammer type drill will not be allowed, except as permitted by Commissioner where working area space is limited.
4. Measure all existing openings such as doorways, shafts, windows, hatchways, etc., through which equipment may have to be transported or moved. Include in bid any and all necessary widening of existing openings, or any other change in the existing structure necessary to place his materials and equipment in the proper position. All such alterations or changes shall be completely restored to the original condition, including patching, immediately after the necessary is passed.
5. Cutting, chasing or core drilling will not be permitted in bearing walls, trusses, girders, or similar structural items unless special permission is obtained from the Commissioner. Be responsible for damages resulting from failure to observe this provision.
6. Waterproof membrane shall not be penetrated. Pipe floor penetration block outs shall be provided outside the extents of the waterproof membrane.
7. Where not indicated on drawings or specified as work by other trades, provide all holes, chases and openings in or through construction elements or equipment required for his work. Where such holes, chases and openings are not permitted by the Commissioner, relocate work to clear obstructions as directed. No additional compensation shall be allowed for this work.

B. Patching:

1. Restore surfaces to original condition with materials coordinated with the G.C.
2. Patching shall be done by men skilled in the trade but paid for by this Contractor. Finishes shall be restored to match the surrounding or adjacent surfaces perfectly in material, color and texture.



3. Patch painting shall be done by this Contractor.

#### 3.04 TEMPORARY OPENINGS

- A. Temporary openings not indicated on the drawings which may be required for purpose of bringing equipment into building shall be provided as required subject to the approval of the Commissioner. Perform work of providing protecting and maintaining openings and of restoring structure.
- B. Holes provided in general construction work to permit installation of piping for temporary plumbing services shall, after removal of such piping, be patched as specified.

#### 3.05 CLEARANCE FROM ELECTRICAL EQUIPMENT

- A. Piping is prohibited in all electric rooms and closets, telephone rooms and closets, and elevator machine rooms.
- B. Where transformers, switchboards, motor control centers, electric panels, motor starters, and variable speed drives are located in spaces other than those identified above, a minimum of 3 feet clearance to any equipment, ductwork or piping shall be maintained in front of all low voltage equipment (208 volts or less) and 3-1/2 feet in front of all high voltage equipment (460 volts). This work space shall extend from the floor to the height of the equipment, but not less than 6 1/2' above floor. The width of the workspace shall equal the equipment width but not less than 30".
- C. Where transformers, switchboards, motor control centers, electric panels, motor starters, and variable speed drives are located in spaces other than those identified above, no piping shall be permitted up to the slab above the equipment footprint.

#### 3.06 TESTING, ADJUSTING AND BALANCING

- A. Make all required adjustments to Plumbing system devices until all specified performances are met. Before commencement of construction, test existing equipment to establish output, etc. Submit certified reports indicating motor and compressor amperage draw, rpm, discharge pressure, suction pressure and setting of all controllers.

#### 3.07 CLEAN-UP

- A. Be responsible for the general clean-up of all areas affected by the work in the Contract. All rubbish and accumulative material shall be removed from the premises and the premises left "broom clean" upon completion.

#### 3.08 PIPE HANGER AND SUPPORT INSTALLATION REQUIREMENTS

- A. Provide necessary structural members, hangers and supports of approved design to keep piping in proper alignment and prevent transmission of injurious thrusts and vibrations. In all cases where hangers, brackets, etc., are supported from concrete construction, care



shall be taken not to weaken concrete or penetrate waterproofing. All hangers and supports shall be capable of screw adjustment after piping is erected. Hangers supporting piping expanding into loops, bends and offsets shall be secured to the building structure in such a manner than horizontal adjustment perpendicular due to expansion. All such hangers shall be finally adjusted, both in the vertical and horizontal direction.

- B. Where piping is run near the floor and not hung from the ceiling construction but is supported from the floor, such supports shall be of pipe standards with base flange and adjustable top yoke, 101 or equal.
- C. Except where otherwise noted, piping shall be supported from structural steel only. Provide supplementary steel where required.
- D. Hanger Spacing:

1. Horizontal steel piping shall be supported as follows:

PIPE SIZE (Inches)	ROD DIAMETER (Inches)	MAXIMUM SPACING (Feet)
Up to 1	3/8	8
1 ½ to 2	3/8	10
2 ½ to 3	1/2	12
4 to 5	5/8	15
6	3/4	17
8 to 12	7/8	20

2. Horizontal copper piping shall be supported as follows:

PIPE SIZE (Inches)	ROD DIAMETER (Inches)	MAXIMUM SPACING (Feet)
Up to 1	3/8	5
1 ¼ to 2	3/8	8
2 1/2	1/2	9
3 to 4	1/2	10

- E. All hub or joint pipe shall be supported within the above recommendations for steel and at each joint.
- F. Plastic piping systems such as (polyvinyl chloride pipe (PVC) and polypropylene piping) shall be supported at intervals recommended by the manufacturer for a 120°F fluid



temperature. Other specialty piping systems, such as PVDF tubing for specialty water systems, shall be continuously supported as recommended by the manufacturer.

- G. All pipes shall be supported within one (1) foot of elbows, valves, flanges, or fittings.
- H. All vertical piping shall be supported at 10 feet maximum intervals or designed as necessary to meet MSS guidelines.

### 3.09 SUPPORTS, HOUSEKEEPING PADS AND STANDS

#### A. Housekeeping Pads:

1. Housekeeping pads will be provided by the Contractor
2. Provide to the GC dimensions, size of foundation bolts, methods of setting, aligning and anchoring of equipment as recommended by manufacturer of equipment. Make minimum height above finished floor 4" and extend outer edges 2" minimum beyond machinery bed-plate. Submit shop drawings for approval.
3. Supply to the Contractor foundation bolts, sleeves, washers, nuts and templates to locate position of bolts. Make sleeves of steel pipe; finish flush with top of rough concrete. For anchorage, make embedded end of bolts hooked, or threaded with nut and square plate.
4. All concrete equipment bases that are installed on vibration isolators, all anchor and thrust blocks and all piping supports in trenches shall be provided under the work of this Section.
5. All concrete work shall conform to A.C.I. standards.
6. Provide 1" thick grouting between machinery base plate and concrete pad; fill completely the space between them. Clean top of pad; wet before grouting. Do not remove leveling wedges before grout reaches its final set. Fill voids left by removal of wedges with grout to make neat appearance.

#### B. Where supports, stands and suspended platforms for machinery, tanks or other equipment are indicated or specified in mechanical work sections, perform as follows:

1. Design and construct supporting structures of strength to safely withstand stresses to which they may be subjected, and to distribute properly the load and impact over building areas. Conform to applicable technical societies' standards, also to codes and regulations of agencies having jurisdiction.
2. Locate supports for tanks so as to avoid undue strain on shell and interference with pipe connections to tank outlets.



3. For tanks containing tubes, check support locations for clearances to pull tubes.
  4. Mount power-driven equipment on common base with driver, unless otherwise indicated, specified or approved.
  5. Submit detailed shop drawings of all supports; obtain approval before fabricating and constructing.
- C. Floor Stands:
1. Unless otherwise indicated, where equipment is indicated or specified to floor mounted on stands or legs, construct of structural steel members or steel pipe and fittings; brace and fasten with flanges bolted to floor.
- D. Suspension Support for Pipes, Equipment:
1. Unless otherwise indicated, all pipes and equipment that are suspended shall be connected directly to the building steel. Where hangers are required between building steel points, supplementary steel members shall be added by the Contractor as required to adequately support the load.
  2. Pipes shall not be supported from other pipes or equipment.

### 3.10 PAINTING AND FINISHING

- A. Paint apparatus, equipment, piping, coverings, hangers, supports, and foundations, except otherwise specified. For performing this work, employ an experienced subcontractor specializing in painting work and approved by the Owner.
- B. Where a priming coat or other painting is specified under other sections of the specification, such coat shall not be considered as one of the coats of paint specified in this section.
- C. Piping and covering concealed in hung ceilings, in furred-out spaces and inaccessible locations are not required to be painted at the site. Piping in trenches and piping laid in the ground shall be painted as specified.
1. Uninsulated piping, including hangers, installed by this Contractor throughout the building, shall be cleaned and then given one (1) coat of primer and one (1) coat of enamel, color as required.
  2. Exposed pneumatic valves and air piping in finished rooms in and above basement or cellar shall be painted. Conduit or troughing enclosing pneumatic tubing shall not be painted.
  3. Piping in floor trenches within the building shall be painted after fabrication with one (1) coat of black asphaltum paint.



D. Workmanship

1. Paints shall be applied in a careful manner by painters experienced and skilled in their trade. Materials or work to which paint is to be applied, whether in factory, in ship, or at the site, shall be properly prepared to receive the same. The surfaces shall be dry, free from foreign matter, dirt, cement, plaster, grease, oil, loose paint, scale, scratches, finger marks, and pencil marks. The various surfaces shall be sandpapered or rubbed before and between coats as required to produce a satisfactory surface. No paint shall be applied until the preceding coating is thoroughly dry. Paint shall be evenly spread and well brushed out. It shall be so applied as to eliminate drops, runs or sagging of materials. Enamel shall be evenly and smoothly flowed on. Painting at the site shall not be commenced until ordered by the Owner.
  2. Drop clothes shall be used to prevent drops of paint and oil from defacing the painted walls, woodwork, floors, stairs, convectors and furniture. Contractor shall be particularly careful not to get paint on nameplates, valve tags, and on other finished surfaces. Paint spots shall be properly removed from floors and finished surfaces.
  3. Each separate application or coat of paint or enamel shall be left until it has been inspected and approved by the Owner before another coat is applied. Each coat of paint applied prior to finishing coat shall be of a shade different from preceding coat, as directed, and from final coat.
  4. Where the finished surfaces of the building have become discolored, marred, damaged or otherwise destroyed in the performance of this Contract, the same shall be refinished, painted or varnished (as the case may be) in the best manner of such work and in every respect equal to the work previously existing.
- E. Masonry foundations built by this Contractor shall be painted above the floor with two (2) coats of latex paint, color selected by Architect.
- F. Pumps, housings, motors, tanks, air compressors, air storage tanks, auxiliary appliances, and exposed metal supports and framework, furnished and installed under this contract shall be given a shop priming coat of rust-inhibiting paint standard with the manufacturer, and after all other work is finished, one (1) coat at the site with lead and oil paint, or color selected. If not factory painted housings made of aluminum or fiberglass shall not be painted. Equipment finish-painted at the factory may not be required to be painted over at the site, provided finish painting is not damaged and is in good condition at completion of project.

3.11 IDENTIFICATIONS

A. Piping System:





1. All piping systems shall be identified by the name of contents and the direction of flow in accordance with ANSI A13.1.
    - a. Comply with the requirements of the New York City Building Code.
  2. Name of contents and directional arrows shall be placed near each valve, on both sides of pipes passing through walls, on long pipe runs at 30-foot intervals.
  3. Names of contents and directional arrows shall be laminated in plastic and wraparound pipe marker as manufactured by Seton Nameplate Co., or approved equal.
- B. Equipment:
1. All items of plumbing equipment shall be identified by approved nameplates by Contractor furnishing equipment.
  2. Nameplates shall be securely affixed to each individual piece of equipment and also to controls for that equipment.
  3. Nameplates shall be aluminum 2-1/2" x 3/4" with black enamel back-ground etched or engraved natural aluminum lettering. Manufacturer shall be Seton Nameplate Company or approved equal.
  4. Equipment shall be identified as to its type and unit number.
- C. Valves:
1. Identify valves and other parts of mechanical systems by means of polished and lacquered brass or aluminum tags, minimum 1- 1/2" round or octagonal, with stamped letters and numbers 1/2" high and filled with black paint. Tag must bear name of particular plumbing or sprinkler system involved and identifying number.
- D. Charts:
1. Charts of valves including valve identification number, location and purpose shall be furnished in duplicate.
  2. Charts of piping system identification shall be furnished in duplicate. Charts shall include the following:
    - a. Service
    - b. Color field
    - c. Legend
    - d. Color of letters



3. One (1) copy of each chart shall be mounted in a wood frame with clear glass front, and secured to wall, as directed.
4. Second chart shall be prepared for use in location as directed, provided with approved transparent plastic enclosure for permanent protection. Two (2) holes shall be furnished at top of plastic enclosure to allow for affixing an 8" length of nickel-plated bead chain. Each hole to be reinforced by a small brass or nickel grommet.

### 3.12 PIPE PENETRATIONS AND FIRE STOPPING

- A. Pipe penetration sleeves shall be installed for all pipe other than rectangular blocked out floor openings for risers in mechanical bays. Install a firestop that provides an effective barrier against the spread of fire, smoke and gases. Fire-stop material shall be packed tight and completely fill clearances between pipe, sleeves, or cores.
- B. Pipe penetration sleeve materials shall comply with all fire stopping requirements for each penetration. Fire-stopping material shall maintain its dimension and integrity while preventing the passage of flame, smoke and gases. Fire-stopping material shall be non-combustible as defined by ASTM E136.
- C. To prevent accidental liquid spills from passing to a lower level, provide the following:
  1. For sleeves: Extend sleeve 1 inch above finished floor and provide sealant for watertight joint.
  2. For blocked out floor openings: Provide 1-1/2 inch angle set in silicone adhesive around opening.
  3. For drilled penetrations: Provide 1-1/2 inch angle ring or square set in silicone adhesive around penetration.
- D. Sheet metal sleeves shall be provided for pipe passing through floors, interior walls, and partitions, unless brass or steel pipe sleeves are specifically called for below.
- E. Cast iron or zinc coated pipe sleeves shall be provided for pipe passing through exterior walls below grade. The space between the sleeve and pipe shall be made watertight with a modular or link rubber seal. The link seal shall be applied at both ends of the sleeve.
- F. Galvanized steel or an alternate black iron pipe with asphalt coating sleeves shall be for pipe passing through concrete beam flanges, except where brass pipe sleeves are called for. A galvanized steel Sleeve shall be provided for pipe passing through floor of mechanical rooms, laundry work rooms, and animal rooms above basement. Except in mechanical rooms, sleeves shall be connected with a floor plate.



- G. Brass Pipe Sleeves shall be provided for pipe passing through quarry tile, terrazzo or ceramic tile floors. The sleeve shall be connected with a floor plate.
- H. Sleeve clearance through floors, walls, partitions, and beam flanges shall be 1 inch greater in diameter than external diameter of pipe. Sleeve for pipe with insulation shall be large enough to accommodate the insulation plus 1 inch in diameter. Interior openings shall be caulked tight with fire stopping material and sealant to prevent the spread of fire, smoke, and gases.

### 3.13 ACCESS PANELS

- A. Supply access panels for the installation to the GC for concealed valves, expansion joints, valves, traps, strainers and other parts requiring accessibility for operation and maintenance.
- B. Access panel size shall be as indicated; when not indicated, make 18" x 18" minimum or larger as directed or required.
- C. Frames shall be 16-gauge steel.
- D. Access panels for use on masonry, tile, and drywall shall have frames with flanges to hide rough openings in walls.
- E. When access panels or doors are installed in fire-rated construction they shall be fire rated to match the construction.

### 3.14 ELECTRICAL WIRING DIAGRAMS

- A. Electrical wiring for safety, interlocks, and controls for motors, motor starters and other electrical apparatus and devices shall be provided by this Contractor regardless of voltage. Power wiring will be by the Electrical Contractor will be under another Division.
- B. Prepare and submit for approval terminal point to terminal point completely coordinated and integrated wiring diagrams for all wiring.
- C. Submit specific wiring diagrams for factory-installed equipment wiring.

### 3.15 INTERFERENCE WITH THE OWNER'S NORMAL OPERATION

- A. All work shall be performed in such as not to interfere with the normal work operations in adjacent spaces or buildings.
- B. Do not block or restrict the means of egress of adjacent spaces, decrease the fire ratings of walls, partitions, ceilings, doors or combination thereof of adjacent spaces or means of



egress, interrupt safety systems or in any way adversely affect the safety of people or materials.

- C. Provide containment measures to prevent dirt, dust or fumes from reaching adjacent work spaces.
- D. All personnel traffic and material delivery shall be routed so as to absolutely minimize travel through adjacent work areas.

3.16 TEMPORARY SERVICE

- A. Temporary services are specified under DDC General Conditions

**END OF SECTION 210511**



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## SECTION 21 13 13

### AUTOMATIC SPRINKLER SYSTEM

#### PART 1 – GENERAL

##### 1.01 GENERAL REQUIREMENTS

- 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]

##### 1.02 WORK INCLUDED

- A. Work of this Section includes all labor, materials, equipment and services necessary to provide a Sprinkler System as shown on the drawings and as specified herein.
1. Complete automatic sprinkler system including piping, fittings, valves, and alarms, as indicated on the Drawings and as specified herein.
  2. Sprinkler booster pump
  3. Fire extinguishers.
- B. General Requirements:
1. All work shall be properly coordinated with the other trades to avoid conflicts. Refer to the architectural drawings for required ceiling elevations and space clearances and details.
  2. All necessary cutting and patching in floor slabs, roof slabs, walls and ceiling for the Fire Protection work shall be performed by this contractor. Restore to match existing conditions.
  3. Bidders, before submitting proposals, may visit and carefully examine the area affected by this work to familiarize themselves with the existing conditions and the difficulties that will attend the execution of this work. Submission of a proposal will be construed as evidence that such an examination has been made, and later claims will not be recognized for extra labor, equipment, or materials, required because of difficulties encountered which would have been foreseen had such as examination been made.



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4. All materials and workmanship shall be guaranteed for a period of one year from date of final acceptance of this work. Instruct the owner's personnel in the proper operation and serving of the system.
5. Secure all required permits and approvals and transmit same to the Owner. Contractor shall be responsible for all fees.

1.03 RELATED WORK

- A. Common Work Results for Fire Protection -Section 210511

1.04 QUALITY ASSURANCE

- |    |          |   |
|----|----------|---|
| A. | A.N.S.I. | -American National Standards Institute                  |
| B. | A.W.W.A. | -American Water Works Association                       |
| C. | F.S.     | -Federal Specifications                                 |
| D. | N.F.P.A. | -National Fire Protection Association Chapter 14 and 20 |
| E. | F.M.     | -Factory Manual   |
| F. | I.R.I.   | -Industrial Risk Insurers                               |
| G. | U.L.     | -Underwriters Laboratory                                |

1.05 SUBMITTALS

- A. Layout drawings with hydraulically remote areas indicated signed and sealed by a NYS PE.
- B. Pipe and Fittings.
- C. Control valves, check valves.
- D. Sprinkler Specialties.
- E. Siamese and auto ball drips.
- F. Alarm check valves.
- G. Fire extinguishers.
- H. Sprinkler booster pump with controller.
- I. Jockey pump with controller.
- J. Alarm actuating devices.
- K. Automatic sprinklers and accessories.
- L. Hydraulic calculations and demand curves in accordance with NFPA-13 signed and sealed by a NYS PE.



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- M. Copy of test reports.
- N. Approval shall be obtained for all equipment and material before delivery to the job site. Delivery, storage or installation of equipment or material, which has not had prior approval, will not be permitted at the job site.
- O. All submittals shall include adequate descriptive literature, catalog cuts, shop drawings and other data necessary ascertain that the proposed equipment and materials comply with specification requirements. Catalog cuts submitted for approval shall be legible and shall clearly identify equipment being submitted.
- P. A minimum period of ten (10) working days, exclusive of transmittal time, will be required in the Engineer's office each time a shop drawing, product data and/or samples is submitted for review. This time period must be considered by the Contractor when scheduling his work.
- Q. Submittals for individual systems and equipment assemblies, which consist of more than one item or component, shall be made for the system or assembly as a whole. Partial submittals will not be considered for approval.
- R. Submittals shall be marked to show specification reference including the section and paragraph numbers.
- S. Submit each section separately and include the following:
  - 1. Information, which conforms to contract requirements. Include the manufacturer's name, model or catalog numbers, catalog information, technical data sheets, shop drawings, pictures, nameplate data and test reports as required.
  - 2. Submittals on all pumps shall be complete with performance curves marked with the design points. Additionally, submittals for any pumps that are in series or parallel with other pumps shall include compounded performance curves for analysis by the Commissioner.
  - 3. Submittals on electrical equipment shall be complete with all power and control wiring diagrams.
- T. Submit samples as directed of items called for in the specifications; samples of the materials, which the manufacturer will actually ship, shall be submitted for approval after award of contract and be properly labeled or identified.
- U. Sprinklers shall be referred to on drawings, submittals and other documentation, by the sprinkler identification of Model number as specifically published in the appropriate agency listing or approval. Trade names or other abbreviated designations shall not be allowed.



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- V. Grooved joint couplings and fittings shall be shown on drawings and product submittals, and be specifically identified with the applicable style or series number.

#### 1.06 OCCUPANCY HAZARD

- A. Sprinkler systems shall be based on noted occupancy hazard, unless the requirements of any specific area make mandatory, a more restrictive system.
  - 1. Light hazard.
  - 2. Ordinary hazard.

#### 1.07 HYDRAULIC CALCULATIONS

- A. Submit for review four (4) sets of hydraulic calculations stamped approved by the insuring agency and authority having jurisdiction to provide a complete system of automatic sprinklers.
  - 1. Indicate remote areas and hydraulic reference points.
  - 2. Submit with demand curves.

#### 1.08 WARRANTY

- A. Automatic Sprinkler System: Provide written 3 year parts warranty issued by the manufacturer upon completion of the work.

### **PART 2 – PRODUCTS**

#### 2.01 MANUFACTURERS

- A. Steel Pipe
  - 1. U.S. Steel Company.
  - 2. Youngstown Steel and Tube Co.
  - 3. Republic Steel Corporation.
  - 4. Or approved equal
- B. Ductile Iron Pipe:
  - 1. Clow





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2. US Pipe
  3. McWane
  4. Or approved equal
- C. Grooved M.I. Fittings and Couplings for Grooved Pipe
1. Victaulic Company
  2. Gustin-Bacon Manufacturing Company
  3. Grinnell Corporation
  4. Or approved equal
- D. Control and Check Valves (Inside):
1. Milwaukee
  2. Stockham
  3. Victaulic
  4. Walworth
  5. Or approved equal
- E. Sprinkler Specialties:
1. Viking Corp.
  2. Reliable
  3. Victaulic
  3. Or approved equal
- F. Fire Standpipe Specialties
1. Potter-Roemer
  2. Croker

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3. Dixon Powhatan
  4. Or approved equal
- G. Sprinkler Booster Pump/Jockey Pumps
1. A-C Fire Pumps.
  2. Peerless Pump Co.
  3. Patterson Pump
  4. Aurora Pump Co.
  5. Grundfos
  6. Or approved equal

## 2.02 PIPING

### A. Inside Building:

1. UL listed, FM approved.
2. Schedule 40 steel pipe, ASTM A795 or A53, with standard weight threaded or flanged cast iron, or threaded malleable iron fittings, except as noted.
  - a. 8" and larger: Schedule 30.
3. Grooved end ASTM A536 ductile iron fittings, full-flow, short radius, Victaulic FireLock, or forged or fabricated from carbon steel pipe conforming to ASTM A53. Bolted clamp type ductile iron couplings with synthetic rubber pressure-responsive sealing gaskets for grooved end pipe 500psi wwp
  - a. Rigid Type: Housings shall be cast with offsetting, angle- pattern bolt pads to provide rigidity and support and hanging in accordance with NFPA 13.
    - 1) 1-1/4"-4", Installation ready designed for direct "stab" installation onto grooved pipe without prior disassembly of the coupling, 300 psi
    - 2) 5"-8", standard rigid joint, 300 psi
    - 3) 10"-12", standard rigid joint, 400 psi



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- b. Flexible Type: Flexible type couplings shall be used in seismic areas where required by NFPA 13. Gaskets shall be suitable for intended service.
- c. Flange Adapters: For use with grooved end pipe and fittings, flat face, for direct connection to ANSI Class 125 and Class 150 flanges.
- d. Gaskets shall be pressure-responsive, synthetic rubber, listed for use with the housings:

Fire Protection Service	Temperature Range	Gasket Recommendation
Dry Systems	Ambient	FlushSeal or approved equal, Grade EPDM, Type A
Freezer Applications	-40°F to 0°F	FlushSeal or approved equal, Grade L Silicone
Water/Wet Systems	Ambient	Grade EPDM, Type A

- 4. In lieu of threaded cast or malleable iron fittings, carbon steel Pressfit products may be used for fire protection service. Products shall be UL listed and FMG approved for fire protection service to 175 psi, precision cold drawn carbon steel, externally zinc electroplated, with synthetic rubber o-rings (grade to suit the intended service).
- 5. For 2-1/2" and larger piping Schedule 10 steel piping, ASTM A795 or A53 permitted with roll-grooved ends.
- 6. Expansion fittings:
  - a. Use flexible type grooved joint mechanical couplings on expansion loops in accordance with the latest manufacturer recommendations for expansion compensation.

B. Underground:

- 1. UL listed.
- 2. Ductile iron, AWWA Class 56, ANSI A-21, cement lined, seal coated, mechanical joint ends.
  - a. Bolted joint, stuffing box type, integral bell with flange made up with rubber ring gasket.
  - b. Provide flanged connection inside building.

C. Galvanized pipe for following:

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1. All preaction system / dry sprinkler piping.
2. Drain and test piping subject to alternate wetting and drying.
3. Piping inside building between Siamese and check valve.

#### 2.03 CONTROL VALVES

- A. UL listed and FM approved.
- B. 2" and smaller:
  1. Ball type, bronze body, threaded or grooved ends, 175 psi wwp, solid wedge disc, slow close with position indicator, supervised one circuit tamper switch
  2. Ball type, bronze alloy body, grooved or threaded ends, 350 psi wwp, chrome plated brass ball, stainless steel stem, brass die cast gear box with supervisory switches
- C. 2-1/2" and larger:
  1. Flanged, IBBM, OS&Y gate type, 175 psi wwp.
    - a. Provide with UL listed 120 volt, closed circuit, supervisory tamper switch.
  2. Grooved, butterfly valve, 300 psi wwp, synthetic rubber coated ductile iron disc.
    - a. Provide with supervisory switches and weatherproof actuator.
- D. 4" and larger.
  1. UL listed, FM approved, butterfly type, 175 psi wwp, iron body, supervised two circuit tamper switch
- E. OS&Y.
  1. UL listed, flanged IBBM, OS&Y gate type, 175 psi wwp
  2. UL listed, FM approved, flanged IBBM, OS&Y gate type, 250 psi wwp. Where required for 250 psig service.

#### 2.04 FLOOR CONTROL VALVE ASSEMBLY

- A. UL/FMG, floor control valve assembly consists of the following:



1. Control/Indicating Valve: Butterfly-type, 300 psi wwp, ductile iron body with grooved ends, integral weatherproof gear operator, and integral indicating device, provided with supervisory tamper switches
2. Inspector's Test Valve Assembly: Grooved or threaded, globe type, with bronze body and bonnet, bronze and copper alloy internals with stainless steel spring, dual polycarbonate sight glasses, integral orifice, and malleable iron handwheel.
3. Water Flow Device: vane type water flow detector.
4. Pressure Gauge.
5. Provide all necessary elbows, tees and couplings necessary for a complete assembly and as required for assembly to fit in noted locations.

2.05 DRAIN AND TEST VALVES

- A. Two-piece threaded bronze ball type with chrome-plated brass ball, quarter-turn handle
- B. Grooved or threaded globe type with bronze body and bonnet, bronze and copper alloy internals with stainless steel spring, dual polycarbonate sight glasses, integral orifice, and malleable iron handwheel
- C. Provide at all low points for system drainage and testing.

2.06 CHECK VALVES

- A. Swing type, except as noted:
  1. 2" and smaller: Threaded bronze, 175 psi wwp
  2. 2-1/2" and larger: UL/FMG, grooved ends, single-disc design, spring-assisted, ductile iron body with aluminum bronze or elastomer encapsulated ductile iron disc, stainless steel spring and shaft, synthetic rubber or welded-in nickel seat; 250 psi wwp
    - a. And larger sizes available with riser check kit.
    - b. Riser check valves shall be permitted in wet systems that have a constant water pressure. Provide water flow devices and electric alarm valve.
  3. 2- 1/2" and larger: Flanged IBBM:
    - a. 250 psi wwp



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- B. Pump Discharge: Silent, IBBM, double center guided conical spring type. Note: for 250 PSI service indicate class 250.
  - 1. 4" and larger: Class 125
  - 2. 3" and Smaller: Class 125
- C. Air Lines: Threaded bronze, swing type, 175 psi wwp with composition or leather disc

#### 2.07 AUTO BALL DRIPS

- A. 3/4" bronze with both ends threaded

#### 2.08 POST INDICATOR VALVES

- A. UL/FM. IBBM, solid wedge disc, gate type, 175 psi wwp with extended stem, cast iron enclosing shaft, glass-covered OPEN and SHUT signs, sealing wrench and lock.
- B. Provide with 120 volt closed circuit supervisory tamper switches. Mount in accordance with Underwriters' requirements.
- C. UL/FMG, butterfly-type, 300 psi wwp, ductile iron body with grooved ends, integral weatherproof gear operator, and integral indicating device.
  - 1. Provided with supervisory tamper switches.

#### 2.09 SEALS, SIGNS, TAGS AND CHARTS

- A. Seals: Provide brass crosslink chain, all brass padlock, 2 keys, or copper wire and approved seal, as required by all authorities having jurisdiction for each manually operated shut-off valve required to be sealed in open position.
- B. Signs: Provide identification signs of standard design, fastened securely at designated location, as required by NFPA 14 and all authorities having jurisdiction.
- C. Tags: Provide brass tags 2" in diameter, stamped with designating numbers and secured with 12 gauge copper wire to spindle of all control valves.
- D. Chart: Provide 2 copies of approved Sprinkler System diagram and valve chart, giving designation number, function, location of each valve, and mount in painted, glazed frames and hang where directed.

#### 2.10 TAMPER SWITCHES

- A. UL Listed, FM approved.
- B. Switch shall be "SPDT" with two sets of spare contacts.



- C. Wiring for tamper switches shall be provided under another Section.

#### 2.11 WATERFLOW SWITCHES

- A. UL listed, FM approved, Reliable Automatic Sprinkler Company Model "A" or System Sensor WFD, or approved equal, paddle type with adjustable pneumatic retard device to prevent false alarms due to water surges.
- B. Switch shall be "SPDT" with two sets of spare contacts.
- C. Wiring: Provided under another Section.

#### 2.12 SPRINKLERS

- A. Underwriters' listed, cast brass, body with hex shaped wrench boss, closed fusible link or frangible bulb wet type with ½ inch discharge orifice. "K" factor shall be 5.3 to 5.8 unless otherwise specified or required. Reliable Automatic Sprinkler Co., Inc., Victaulic Company, or approved equal.
  - 1. General Hung Ceiling Area: Standard recessed type, chrome plated.
    - a. Reliable Model G with matching escutcheon.
    - b. Victaulic Model V2707 or V2708 with matching escutcheon.
    - c. Or approved equal
  - 2. Finished areas without hung ceilings: Standard upright or pendent type chrome plated.
    - a. Reliable Model G.
    - b. Victaulic Model V2703, V2704, V2707, or V2708.
    - c. Or approved equal
  - 3. Unfinished areas (Mechanical Equipment rooms, etc.): Standard upright or pendent type, rough brass.
    - a. Reliable Model G.
    - b. Victaulic Model V2703, V2704, V2707, or V2708.
    - c. Or approved equal



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4. Sidewall upright or pendent, dry type head where indicated.
  - a. Reliable Model G3, G3A.
  - b. Victaulic Model V3609, V3610, V3605, or V3606.
  - c. Or approved equal
5. Sidewall – Chrome plated where indicated.
  - a. Reliable Model G-HSW1.
  - b. Victaulic Model V2709 or V2710.
  - c. Or approved equal
7. Sprinkler heads shall be Underwriters' Approved cast brass closed fusible link or frangible glass bulb type.

#### 2.13 FLEXIBLE DROP SYSTEM

- A. In lieu of rigid pipe offsets or return bends for sprinkler drops, flexible drop system may be used to locate sprinklers as required by final finished ceiling tiles and walls. The drop system shall consist of a braided or corrugated type 304/316 stainless steel hose piece, 1" NPT male threaded adapter for connection to header piping and a 1/2" or 3/4" NPT female adapter for connection to the sprinkler head. Unions shall be provided on either end of the flexible hose for ease of installation. The flexible drop shall attach to the ceiling grid using a one-piece bracket that can be installed without the use of tools and have a 3" minimum bending radius for installation in narrow or confined spaces. The braided drop system is UL listed and FM approved and the corrugated system is UL listed for sprinkler services to 175 psi.

#### 2.14 SPRINKLER CABINET

- A. Enameled steel with approved number of sprinklers of all type and rating installed, two sprinkler wrenches. Install where directed by the Architect. Quantity of sprinklers shall be in accordance with NFPA Standards.

#### 2.15 SYSTEM TEST PIPES

- A. Provide 1" inspectors test pipes fitted with a 1" shutoff valve for each valved sprinkler zone.
  1. For open drains: 1" blind test connection, Reliable Model A.
  2. Sight glass with 1/2" minimum orifice for closed drain systems.





- B. Pipe to floor drains or service sink. Floor drains and service sinks shall be provided under another Section.
- C. See details on drawings.
- D. In lieu of test pipe assembly, an approved alarm test module may be used for each valved sprinkler zone.

2.16 ALARM CHECK VALVE

- A. UL listed, FM approved.
- B. IBBM, vertical or horizontal mounting. Body: Cast iron with flanged or ductile iron grooved ends conforming to ANSI B16.5. Clapper: Rubber faced.
- C. Pressure rating: 175 psi wwp and factory tested at 350 psi.
- D. Valve shall be rigged with closed drain retard chamber for variable inlet pressure.
- E. Provide with mechanical Victaulic Series 760 (or approved equal) and electrical alarm, pressure switch System Sensor EPS-10, or approved equal.
- F. Provide with trim including pressure gauges, test valves, drain valves, external piping and necessary appurtenances.
- G. Internal parts shall be replaceable without removing valve from installed position. Shall be permitted in wet systems that have a constant water pressure.

2.17 FIRE EXTINGUISHERS

- A. Ten (10) pound size, dry chemical type, U.L. rating 4A:60B:C.
- B. Red polyester coated steel cylinder with pressure gauge and hose with nozzle.
- C. Fully recessed cabinet where required. 20 gauge box and door, 18 gauge frame, prime finish, glass panel front.
- D. Mechanical/Electrical rooms: 15 pounds CO2 type
- E. Install as required by code or as noted on Drawings.

2.18 SPRINKLER BOOSTER PUMP

- A. Provide factory-built and factory-tested packaged automatic fire pump assembly as indicated, of sizes, configuration, and capacities as scheduled, and as specified herein.



Units shall consist of pump, piping, valves, accessories, interconnecting wiring, motor starter, and fire pump controller.

- B. The fire pump shall be of a capacity as scheduled on the Drawings. The pump shall also deliver not less than 150% of rated capacity at a pressure not less than 65% of rated head. The shutoff pressure should not exceed 120% of the rated pressure.
- C. The pump shall be the type as scheduled and shall meet all requirements of the National Fire Protection Association (NFPA) Pamphlet #20 and shall be listed by Underwriters' Laboratories (UL) and Factory Mutual (FM) approved. The following accessories shall be included with the pump unit:
1. Main relief valve.
  2. Enclosed overflow cone.
  3. Suction and discharge gauges.
  4. System gauge.
  5. Automatic air release valve.
  6. Casing relief valve.
  7. Test header (meter).
- D. Pump:
1. Centrifugal type.
  2. Cast iron, single stage casing with renewable bronze case wearing rings, double suction enclosed bronze impeller and renewable bronze impeller wearing rings.
  3. Extra heavy steel shaft with renewable bronze or stainless steel shaft sleeves.
  4. Deep stuffing boxes with bronze glands and external water seal.
  5. Heavy duty grease lubricated ball bearings.
  6. Grease fittings and drain plugs.
  7. Spill gland leakage and bed plate drains over floor drain.



- E. The pump shall be driven by an ODP rated motor, with a 1.15 service factor. The pump and motor shall be connected through a flexible coupling, provided with a coupling guard, on a common fabricated steel base. Motor and pump aligned, bolted and doweled in place on heavy extended box type fabricated steel bed plate with drainage lip, by pump manufacturer.
- F. Locked rotor current shall not exceed the values specified in NFPA Pamphlet #20.
- G. The motor control equipment shall be completely assembled, wired and tested at the factory and the assembly specifically approved for the fire pump purposes. The controller shall be enclosed in a NEMA-II drip tight enclosure and labeled "FIRE PUMP CONTROLLER".
1. The panel shall contain contacts for remote indication of pump operating, power available and control voltage available.
  2. The control panel shall start the pump automatically at the pressure cut-in point and shall be stopped manually.
  3. Terminals to match feeder size as indicated on Electrical plans.
  4. Provide Digital Solid State Starting Fire Pump Controllers: the controller monitors, displays and records fire pump system information. When called to run, the motor will accelerate beginning at 100% of motor FLA up to a maximum of 300% FLA while rated torque is reduced to 15%. When stopping, the motor will decelerate to a preset level and pause, allowing for a restart if required, limiting stress in the piping system. If no additional starting causes are present, the motor will continue to decelerate to a full stop. This controller helps to reduce water hammer in the system.
  5. The pump controller shall be interwired with an Automatic Transfer Switch and shall be considered an integral unit. The transfer switch shall be provided by Fire Pump manufacturer.
- H. The panel shall contain contacts for remote indication of pump operating, power available and control voltage available.
- I. Withstand current rating in amperes (sym) of the transfer switch shall be as scheduled.
1. Withstand current rating may also be satisfied by transfer switch being listed by the manufacturer, with the normal and emergency feeder over current devices, for not less than the scheduled withstand current rating.
- J. The control panel shall start the pump automatically at the pressure cut-in point and shall be stopped manually.



2.19 JOCKEY PUMP FOR SPRINKLER BOOSTER PUMP

- A. Provide factory-built and factory-tested packaged automatic jockey pump as indicated, of sizes, configuration, and capacities as scheduled, and as specified herein. Units shall consist of pump, piping, valves, accessories, interconnecting wiring, motor starter, and control panel.
- B. The jockey pump shall be the type, as scheduled on the drawings, coupled to a motor. Pump shall have a cast iron diffusers; and adapter with registered fits to maintain axial alignments; bronze enclosed impellers, bronze casing ring, bronze base bearings and sand cap; steel shaft coupling; stainless steel shaft. Impellers shall be pinned to shaft to prevent reverse rotation and to obtain interstage lateral setting. Pump shall be provided with cast iron base with drain plug.
- C. The jockey pump control panel shall include an across-the-line magnetic starter, disconnect switch, H-O-A switch, pressure switch and running period timer. Motor Controller: UL listed, with running period timer, pressure switch, overload relays and fusible disconnect.
- D. The pump shall be hydrostatically tested to twice the working pressure, but in no case to less than 250 psig. Prior to shipment, the pump and motor shall be thoroughly shop tested by the manufacturer. A characteristic curve of pump performance from the test results shall be drawn and furnished to the Commissioner.
- E. The pump manufacturer shall provide the service of manufacturer's representative for the fire pump installation start-up and test.

2.20 FIRE PUMP TESTING EQUIPMENT

- A. 2-1/2" cotton rubber line hose, six 50' lengths.
- B. Nozzles: 2-1/2" x 15" x 1-1/8" open tapered red enameled galvanized cast iron.
- C. Hose Saddle Racks: wall hung steel red enameled finish, attached to wall with backing plate. Provide two.
- D. Spanner Wrench
- E. Washers: Provide 12.

2.21 FIRE PUMP FLOW METER

- A. The primary flow element shall be a Venturi flow gauge selected from manufacturers' engineering data to permit prescribed flow at a minimum of head loss. For maximum accuracy and minimal turbulence in recovery area and thus low pressure loss, Venturi shall have minimum length of 1.6 x pipe diameter. The beta ratio shall be selected to allow for a differential pressure compatible with the meter as specified herein and insure



property calibrated system accuracy within 2% throughout the entire range. This accuracy must be obtained with as little as five (5) pipe diameters of straight pipe upstream and two (2) diameters downstream from the Venturi. The Venturi shall be furnished with two (2) accurately located built-in sensing taps, nipples, shut-off valves, and quick connect couplings. Venturi shall be complete with metal identification tag on chain, giving pipe size, beta ratio, Venturi style, flow rating, data of manufacture and approval.

- B. Venturi station shall consist of one-piece cadmium-plated cast steel with flanged ends.
- C. Venturi size and beta ratio shall be selected to accurately measure throughout the range of 50% to 200% of the rated capacity of the fire pump.
- D. The indicating meter shall be fixed mounted type with 6" round dial, 270 degrees indication. It shall be the dual rupture-proof liquid filled bellows type with integral temperature compensation. The metal shall have over-range protection in either direction equal to the working pressure equivalent of the instrument housing (250 psig @ 250 degrees F.). The accuracy of the meter shall be no less than 0.5% full scale. It shall have external zero and range adjusting screws and life-long lubrication. Scale shall be calibrated to read directly in GPM, and shall be scaled to read from 0.200% of rated pump capacity.
- E. Meter shall be furnished with necessary bleed-off and shut-off valves, color coded connectors, fittings and assembly piping.
- F. Meter shall have a label attached identifying the Meter number and range.

### **PART 3 – EXECUTION**

#### **3.01 GENERAL REQUIREMENTS FOR ALL FIRE PROTECTION EQUIPMENT**

- A. Examination
  - 1. Examine areas to receive equipment for compliance with requirements for installation tolerances and other conditions affecting performance.
  - 2. Examine roughing-in for ductwork, piping, and electrical connections to verify actual locations before installation.
  - 3. Proceed with installation only after unsatisfactory conditions have been corrected.
- B. Installation



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1. Secure all equipment to building structure and install equipment in accordance with approved detail drawings, manufacturer's instructions, and all codes and regulations which apply.
2. Install all accessories not factory installed.
3. Install equipment level and plumb unless otherwise noted.
4. Install equipment with required access and clearances. If there are field condition that prevent providing access and clearances notify the Commissioner. If the equipment is installed before rectifying the access and clearance issues the Contractor shall be require to remove and re-install the unit as required and make any associated changes to the associated ductwork, piping, wiring and controls at no cost to the Owner.
5. Where required suspend equipment from structure or mount on concrete base or stand with vibration isolators. Vibration isolators are specified under Section "Vibration Isolation and Seismic Restraints."
6. Install sensors and controls supplied with the equipment.

C. Connections

1. Piping installation requirements are specified in other sections.
2. Drawings indicate general arrangement of piping, fittings, and specialties. Arrange connections as per approved shop drawings.
3. Unless otherwise indicated, install shutoff valve and union or flange at each connection.
4. Install piping adjacent to equipment to allow service and maintenance.
5. Ground equipment.
6. Tighten electrical connectors and terminals according to manufacturer's published torque-tightening values.

D. Field Quality Control

1. Testing: Perform the following field quality-control testing and report results in writing:
  - a. After electrical circuitry has been energized, start units to confirm proper motor.
  - b. Test and adjust controls and safeties
2. Repair or replace malfunctioning units. Retest as specified above after repairs or replacements are made.

E. Cleaning

1. After installing units, inspect equipment for damage to finish. Remove paint splatters and other spots, dirt, and debris. Repair damaged finish to match original finish.



2. After installing equipment, clean internally according to manufacturer's written instructions.
  3. Install new filters in equipment within two weeks after start up.
  4. Basket strainers shall be initially cleaned two week after start-up with a second cleaning two weeks after that.
- F. Start Up
1. Verify that equipment is installed and connected according to approved shop drawings and contract drawing.
  2. Adjust flows and controls.
  3. Test and adjust controls and safeties. replace damaged and malfunctioning controls and equipment.
- G. Factory Start Up Service
1. Engage a factory-authorized service representative to perform startup service for the following equipment or as specified under Commissioning:
    - a. Sprinkler booster pump and jockey pump
  2. Inspect field-assembled components, equipment installation, and piping and electrical connections for proper assemblies, installations, and connections.
  3. Complete installation and startup checks according to manufacturer's written instructions.
  4. Prepare a written startup report that records results of tests and inspections.

### 3.02 INSTALLATION REQUIREMENTS

- A. Piping shall be installed to be clear of any and all conduits, lighting fixtures, ductwork and heating piping. Consult with the Contractors of the other trades to facilitate the erection of the System.
- B. After cutting, all pipes shall be reamed out to full bore and before erection the inside of all pipes shall be thoroughly cleaned.
- C. In erecting pipe, friction wrenches and vises shall be used exclusively and any pipe cut, dented or otherwise damaged shall be replaced by this Contractor.
- D. Pipe threads shall be made with the best dies and tools available. During threading, the pipes shall be saturated with solvent to assure sharp threads free of burns and notches.
- E. All screwed joints shall be made with the best quality pure lead, carefully placed on threads of pipe and not in fittings.
- F. Piping and fittings shall be so erected that the entire system may be thoroughly drained.



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- G. See Architectural, Structural, Mechanical and Electrical Drawings for construction and interference details. Any changes that may be necessary because of physical conditions or compliance with the standards shall be made by this Contractor without additional cost.
- H. Specific references in this Section or on the Drawings to any article, device, product or material, fixtures or equipment by name, make or catalog number shall be interpreted as establishing a basis of cost and standard quality. All the devices shall be of the make and type listed by the Underwriters Laboratories, Inc. No consideration will be granted for any alleged misunderstanding of the materials to be furnished or work to be done due to a lack of information on the drawings or in the Specifications.
- I. After the piping installations have passed a satisfactory hydrostatic test and/or air test all iron and steel parts shall be thoroughly cleaned ready for painting.
- J. All piping shall be accurately cut to measurements established by the Contractor and shall be installed without springing or forcing.
- K. Drips and drains shall be installed at low pressure points and where required and shall discharge to open sight drains or to standard interior floor drains or service sinks.
- L. Direct connection from any drain to any component of the sanitary drainage system shall be prohibited.
- M. Furnish and set sleeves in walls and floors as required. Escutcheons shall be provided at all penetrations through finish/exposed areas.
- N. All pipe openings shall be capped or plugged during construction and all piping shall be flushed out before closing system.
- O. Pipe compound shall be applied to male threads only.
- P. The use of bushings to reduce the size of openings of fittings is prohibited.

### 3.03 TESTING

- A. Before any paint is applied, the fire standpipe system shall be tested hydrostatically at not less than 200 psi pressure for two (2) hours minimum, and in accordance with all requirements of the authorities having jurisdiction and NFPA latest edition.
- B. Before any paint is applied, the dry standpipe system shall be tested by air pressure to 40 psig for a period of 24 hours. Leakage in excess of 1- ½ psig will not be acceptable.

**END OF SECTION 211313**

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AUTOMATIC  
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## SECTION 220511

### COMMON WORK RESULTS FOR PLUMBING

#### PART 1 – GENERAL

##### 1.01 GENERAL REQUIREMENTS

- A. Work of this Section, as shown or specified, shall be in accordance with the requirements of the Contract Documents.
- B. 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]

##### 1.02 WORK INCLUDED

- A. Work of this Section includes all labor, materials, equipment, hoisting and rigging, scaffolding and services necessary to complete the Plumbing Work as shown on the drawings and specified herein, including, but not limited to, the following:
  - 1. Shop drawings and samples.
  - 2. Record and as-built drawings.
  - 3. Domestic water and fire protection services.
  - 4. Sanitary drainage and vent systems.
  - 5. Domestic water systems.
  - 6. Plumbing equipment.
  - 7. Insulation.
  - 8. Plumbing fixtures.
  - 9. Controls and control wiring regardless of voltage.
  - 10. Testing of systems.



1.03 WORK NOT INCLUDED

- A. Temporary:
  - 1. Water supply for construction.
  - 2. Toilet facilities for construction.
  - 3. Fire protection during construction.
- B. Finished painting.
- C. Toilet accessories except installation as required by authorities having jurisdiction.
- D. Electrical power wiring.
- E. Installing cover frames (not supplied with equipment) for sewage and sump pits.
- F. Drainage piping extended from HVAC equipment.
- G. Installing access doors.

1.05 CONTRACTOR'S RESPONSIBILITY

- A. Contract drawings for plumbing work are diagrammatic, intended to convey the scope of work and indicate general arrangement of equipment, piping and approximate sizes and locations of equipment outlets. Plumbing trade shall follow these drawings in layout of their work, consult general construction, structural and electrical and automatic sprinkler drawings to familiarize themselves with all conditions affecting their work, and shall verify spaces in which their work will be installed. The drawings indicate size, connections points, and routes of piping. It is not intended however, that all offsets, rises, and drops are shown.
- B. Be responsible for establishing grades and elevations, checking of all interferences, and verify all dimensions and locations in the field prior to the start of any work and/or installation of equipment and piping. The Contractor shall, at his expense, perform all minor rerouting of piping around obstructions from new or existing construction whether or not such conditions are indicated on the plans. Minor rerouting of piping is defined as any rerouting which requires less than 10 linear feet of additional piping over and above that shown on the drawings in order to avoid an obstruction. Such rerouting shall be performed with piping of a size equal to that shown on the original routing. Whenever an obstruction requires more than a minor rerouting as defined above, report the condition to



the Commissioner prior to the start of pipework on the affected system. Be responsible for neglect of checking all elevations, clearances, dimensions and locations of piping systems prior to the start of work on same.

- C. Verify with the Commissioner, any item of piping or piping arrangement, which may be incomplete, incorrect or indefinite.
- D. All trades shall cooperate and confer with each other as to locations of their materials and equipment before erecting work, so as to avoid interference as much as possible, and in such manner that will in no way retard progress of construction. In instances where interferences develop, relocate the work as required by Commissioner, regardless of which work was installed first.
- E. Additional and supplemental drawings may, from time to time, be furnished and the same when made are to constitute a part of the original contract drawings and will not depart materially there from.
- F. The Commissioner specifically reserves the right, up to the time of roughing-in, to exactly define the position of the equipment to be installed and connected to and arrangement of these connections.
- G. Special attention is called to the contract drawings and specifications involving general construction, electrical work and details thereon. Bidders are notified to carefully scrutinize these documents for the details affecting the performance of the mechanical trades.
- H. Minor Piping: Generally, small diameter pipe runs from drips and drains, water cooling, and other service are not shown but must be provided.

#### 1.06 DEFINITIONS

- A. The following definitions of terms and expressions used in this section are in addition to listing given in General Conditions:
  - 1. "Provide" shall mean, "furnish and install" unless otherwise indicated.
  - 2. "Herein" shall mean the contents of a particular section where this term appears.
  - 3. "Indicated," shall mean, "indicated on contract drawings".
  - 4. "Scheduled" shall mean, "as scheduled on contract drawings".
  - 5. "Concealed", where used in connection with insulation and painting of piping, ducts and accessories, shall mean that they are hidden from sight, as in trenches, chases, furred spaces, pipe shafts or hung ceilings.



6. "Exposed", where used in conjunction with insulation and painting of pipe, ducts and accessories, shall mean that they are not "concealed" as defined herein above.
7. "Singular Number": In all cases where a device or part of the equipment or system is herein referred to in the singular number (such as pump), it is intended that such reference shall apply to as many such items as are required to complete the installation.

1.07 SITE INSPECTION

- A. Bidders may visit the job site and become thoroughly familiar with the conditions under which the work will be performed. The submission of a proposal shall be construed as evidence that the bidder has visited the site and has knowledge of site conditions. Any later claim for extra payment because of difficulties encountered will not be allowed.

1.08 CARE OF WORK AND SAFEGUARDS

- A. Protect the work from damage by any cause until it is completed and accepted by the Owner.
- B. Protect from damage any underground service or structure exposed by the execution of this work.
- C. Any damaged property resulting from work performed either by this Contractor, his subcontractors, or anyone in his employ shall be repaired and restored to its original state at no cost to the Owner.

1.09 SCHEDULE OF WORK

- A. Schedule all work to conform to the job progress schedule as submitted to and approved by the Commissioner.

1.10 SUBMITTALS

- A. Approval shall be obtained for all equipment and material before delivery to the job site. Delivery, storage or installation of equipment or material, which has not had prior approval, will not be permitted at the job site.
- B. All submittals shall include adequate descriptive literature, catalog cuts, shop drawings and other data necessary ascertain that the proposed equipment and materials comply with specification requirements. Catalog cuts submitted for approval shall be legible and shall clearly identify equipment being submitted.
- C. A minimum period of ten (10) working days, exclusive of transmittal time, will be required in the Engineer's office each time a shop drawing, product data and/or samples



is submitted for review. This time period must be considered by the Contractor when scheduling his work.

- D. Submittals for individual systems and equipment assemblies, which consist of more than one item or component, shall be made for the system or assembly as a whole. Partial submittals will not be considered for approval.
- E. Submittals shall be marked to show specification reference including the section and paragraph numbers.
- F. Submit each section separately and include the following:
  - 1. Information, which conforms to contract requirements. Include the manufacturer's name, model or catalog numbers, catalog information, technical data sheets, shop drawings, pictures, nameplate data and test reports as required.
  - 2. Submittals on all pumps shall be complete with performance curves marked with the design points. Additionally, submittals for any pumps that are in series or parallel with other pumps shall include compounded performance curves for analysis by the Commissioner.
  - 3. Submittals on electrical equipment shall be complete with all power and control wiring diagrams.
- G. Submit samples as directed of items called for in the specifications; samples of the materials, which the manufacturer will actually ship, shall be submitted for approval after award of contract and be properly labeled or identified.
- H. Submit a minimum of three (3) hard copies of all shop drawings and submittals for Engineer's review.

#### 1.11 SHOP DRAWINGS

- A. Submit shop drawings to Commissioner for review in accordance with the requirements of the contract documents, and as specified in other sections of this specification.

#### 1.12 SHOP DRAWINGS AND COMPOSITE DRAWINGS

- A. Promptly prepare and submit all shop drawings required by the specifications, contract and contract drawings, and also all incidental shop drawings required for the proper performance of the work. The shop drawings shall illustrate fully the requirements of the specifications and the contract drawings, and shall accurately show quantities, kind of materials, methods of assembly and all data required for fabrication, erection and installation. The relationship to adjoining work, whether furnished under other subdivisions of this contract or by other contractors, shall be properly shown.



1. The Contractor shall prepare underground plumbing drawings and demonstrate coordination with all foundation and underground utilities.
- B. The HVAC Contractor shall be responsible for coordinating the installation work of all the Mechanical Contractors (HVAC, Plumbing and Electrical Work) by means of composite shop drawings as specified herein.
- C. The composite shop drawings shall be constituted in the following manner: HVAC Contractor shall prepare a set of sepia transparencies drawn to the scale of  $3/8" = 1'-0"$ , indicating thereon all ductwork, major piping, plus structural and architectural background details. He shall deliver this set of sepias to the Contractor for Plumbing and Sprinkler who will draw his work to scale on the sepias. Then the HVAC Contractor shall deliver this set of sepias to the Contractor for Electrical Work who will superimpose his work on the drawings. The specified order in which the Contractors impose their work on the sepias. Then the HVAC Contractor shall deliver this set of sepias to the Contractor for Electrical Work who will superimpose his work on the drawings. The specified order in which the Contractors impose their work on the sepias is not intended to grant priority to any one Contractor in the allocation of space.
- D. At the completion of this phase, hold a coordination meeting with the other Contractors to eliminate any interference among the trades that the drawings indicate and to avoid any conflicts in installing the work. If the Contractors are unable to reach agreement on a matter of interference among the mechanical trades, the matter shall be submitted to the Commissioner for his binding decision. After the set of sepias has been coordinated and all necessary changes have been made, each Mechanical Contractor shall sign the drawings, attesting to his agreement that all work is clear.
- E. The Contractor is advised of the requirements of beam cuts for piping. Exercise special care in coordination of work between the Mechanical and Structural trades.

#### 1.13 OPERATION, MAINTENANCE MANUALS AND INSTRUCTIONS

- A. Furnish to the Commissioner six (6) bound and indexed copies of the final approved installation, operations and maintenance manuals.
- B. Manual Contents:
  1. Comprehensive detailed information on the approved installation, operation and use, troubleshooting, parts list, lubrication and periodic maintenance, together with the source of replacement parts and service for the items of equipment and the systems covered, including electrical equipment, devices and systems.
  2. Where items of equipment or system work in conjunction with one another, the interconnections shall be shown on a single sheet, folded out if necessary. A schematic wiring diagram and a description of operation shall be included.



3. Where separate items of equipment specified herein are combined into a single self-contained unit, the drawings and required data shall treat each item of equipment in such self-contained unit as separate items. Referring to such self-contained unit as one item of equipment will not be acceptable.
- C. At the completion of the work, instruct the employees who will have charge of the equipment in the care, adjustment and operation of each piece of equipment. Instruction shall be by competent representatives of the manufacturers involved with adequate time allowed for complete coverage of all owning and operating procedures.
- D. In addition, leave with such employees printed instructions covering the operation and required maintenance of each particular piece of equipment. Instructions shall be bound and titled and submitted to the Commissioner for approval. Submit six (6) sets.

#### 1.14 CODES AND STANDARDS

- A. Work performed under this Contract shall conform to all applicable laws, ordinances, regulations, codes (state, local and federal), and shall be subject to control of public authorities having jurisdiction.
- B. Wherever requirements of such laws, codes, regulations differ from the drawings or specifications, they shall take precedence over the drawings specifications, and are expressly made part of the Contract, except where the drawings or specifications are more stringent or require better materials, which would also be acceptable to authorities (i.e., the more stringent code shall always apply).
- C. Any portion of work which is not subject to the approval of an authority having jurisdiction shall be provided in accordance with National Fire Protection Association requirements.
- D. Comply with applicable utility company rules and regulations.
- E. Comply with Occupational Safety and Health Act (OSHA) requirements.

#### 1.15 FEES AND PERMITS AND INSPECTIONS

- A. The Contractor shall secure all permits and pay all fees required by local and state governing bodies necessary to complete the construction. Failure to investigate all applicable payments before the bid submission shall not constitute grounds for additional monies from the Owner. The Owner shall be furnished with all certificates of approval.

#### 1.16 INSPECTIONS, PROGRESS INSPECTIONS, SPECIAL INSPECTIONS AND TESTING

- A. The following inspections, tests, progress inspections and special inspections shall be considered part of the contract work.



- B. Upon completion or partial completion of the permitted plumbing work, inspections, progress inspections, special inspections and tests shall be conducted by approved agencies or special inspectors qualified to conduct such inspections and tests. Inspections and progress inspections shall be performed in compliance with section BC 109 of the New York City Building Code. Special inspections shall be performed in compliance with sections BC 1704 and BC 1707 of the New York City Building Code for all plumbing systems regulated by the New York City Plumbing Code, sections PC 107, PC 312, Chapters 6, 7, 9 and 11, the New York City Fuel Gas Code, Sections FGC 107, and FGC 406. Refer to article 116 of Chapter 1 of Title 28 of the Administrative Code for additional provisions related to inspections.

1.17 REFERENCE DOCUMENTS AND STANDARDS

- A. Accepted plumbing standards and organization whose abbreviations are used to identify such standards are listed below:
1. A.G.A., American Gas Association.
  2. A.S.M.E., American Society of Mechanical Engineers.
  3. A.N.S.I., American National Standards Institute, Inc.
  4. A.S.S.E., American Society of Sanitary Engineering.
  5. A.S.T.M., American Society for Testing and Materials.
  6. A.W.W.A., American Water Works Association.
  7. C.I.S.P.I., Cast Iron Soil Pipe Institute.
  8. C.S., Commercial Standard – National Bureau of Standards.
  9. F.S., Federal Specifications.
  10. N.S.F., National Sanitation Foundation Testing Laboratory, Inc.
  11. P.D.I., Plumbing and Drainage Institute.
  12. N.F.P.A., National Fire Protection Association.
  13. U.L., Underwriters Laboratories.
  14. F.M., Factory Mutual





1.18 GUARANTEE

- A. In addition to the requirements stated in the specifications, guarantee all equipment, materials and appurtenances installed to be free from all defects. Upon written notice from the Commissioner, promptly correct all defects without additional cost to the Owner. Make good, at no extra cost any defects in materials or workmanship that may appear. The guarantee period shall be from one (1) year after final inspection and acceptance of the project.

1.19. WASTE MANAGEMENT

- A. Comply with the requirements established by the Contractor to separate and recycle, salvage or reuse cast-offs, surplus and waste material in accordance with the Waste Management Plan.
- B. Arrange for suppliers to take back shipping and packing materials for reuse or recycling to the maximum extent economically feasible, or include them in the Waste Management Plan.

**PART 2 – PRODUCTS**

2.01 PRODUCT HANDLING

- A. In addition to the requirements of the General Conditions, the Contractor shall be responsible for the following:
1. Responsibility for care and protection of plumbing work rests with the Contractor until it has been tested and accepted.
  2. After delivery, before, during and after installation, protect equipment and materials against theft, injury and damage for all causes.
  3. Coat polished or plated metal part with Petroleum jelly immediately after installation.
  4. Protect equipment outlets and pipe, openings with caps.
- B. Receive, properly house, handle, hoist, deliver to proper location, equipment and other material required for the contract.
- C. Cleanliness of Piping and Equipment Systems:



1. Care shall be exercised in the storage and handling of equipment and piping material to be incorporated in the work. Debris arising from cutting, threading and welding of piping shall be removed.
2. Piping systems shall be flushed, blown or pigged as necessary to deliver clean systems.
3. The interior of all tanks shall be cleaned prior to delivery and beneficial use by the Government. All piping shall be tested in accordance with the specifications and the International Plumbing Code (IPC), latest edition. All filters, strainers, fixture faucets shall be flushed of debris prior to final acceptance.
4. Contractor shall be fully responsible for all costs, damage, and delay arising from failure to provide clean systems.

## 2.02 MATERIALS

### A. Design:

1. Unless otherwise specified, equipment or material of same type or classification, used for the same purpose, shall be products of the same manufacturer. All material shall be new and of the latest design of manufacturer providing equipment or materials.
2. Equipment and accessories not specifically described or identified by manufacturer's catalog numbers shall be designed in conformity with ASME, or other applicable technical standards, suitable for maximum working pressure and shall have neat and finished appearance.
3. Manufacturers of equipment assemblies, which use components made by others, assume complete responsibility for the final assembled product.

### B. Electrical Characteristics:

1. It shall be the responsibility of this Contractor to ensure that the voltage and current characteristics of the electrical equipment furnished by him shall be suitable for the electrical services as specified.

### C. Lubricating Devices:

1. Provide oil level gauges, grease cups, grease gun fittings for machinery bearings as recommended by machinery manufacturer; where lubricating means are not easily accessible, extend to accessible, extend to accessible locations. Furnish all grease gun fittings of uniform type.

### D. Belt Guards:



1. Provide guards to enclose belts, pulleys, sheaves or belt-driven equipment. Construct of galvanized expanded or perforated sheet steel, or 1" mesh wire screen in angle frame with steel angle or channel mounting supports; make guard easily removable for access to belt, pulley or sheave. Conform to codes or regulations of agencies having jurisdiction. Provide access holes for tachometers.

### 2.03 SLEEVES

- A. Extend through new construction.
  1. For Insulated Piping: Sized to allow for insulation.
- B. No. 22 USSG galvanized iron through:
  1. Interior floor slabs.
  2. Ceilings.
  3. Walls and partitions.
- C. Protect pipes passing through floors with membrane waterproofing and roofs with Schedule 40 pipe extensions (not sheet metal) and provide "Zurn Z-197" or "Josam 1880" with cast iron integral flashing flange and clamping ring waterproof type pipe sleeves. For membraned floors, fill void between sleeve and pipe with mineral wool and then seal the top with mastic to prevent sound transmission. Sleeves for Penetrations of the Metal Deck (where applicable): Nail, Cut or drill the metal deck after the deck is poured. Set sleeves in such a manner so that no concrete fills their interior during the concrete pouring and screening operations.
- D. Sleeves for Reinforced Concrete Walls and in Concrete Beams: Standard weight galvanized steel pipe with anchor flanges. Sleeves through Toilet Rooms and any other such Wet Area Floors: Iron pipe size brass. Caulk floor sleeves for exposed pipes watertight and project approximately 2" above the finished floor so that the plate will properly fit over same. Finish sleeves flush with the bottom of slab and also with the finished faces of wall.
- E. Provide sleeves with an inside diameter at least 1/2" greater than outside of pipe served, including pipe insulation which must be continuous through sleeve.
- F. Do not support pipes by resting clamps on sleeves. Clamps must extend beyond sleeve and be supported outboard of sleeve in an approved manner.

### 2.04 EXTERIOR WALL/PIPE PENETRATIONS

- A. Underground pipe through wall penetrations shall be sealed with positive hydrostatic seals. The modular mechanical seals shall consist of interlocking rubber links shaped to continuously fill the annular space between the pipe and wall opening. Caulking or other



type of mastic sealants or lead or oakum joints are not acceptable. The Contractor shall determine the required inside diameter of each wall opening or sleeve to fit the pipe seal. The seal size and model shall be as recommended by the manufacturer's instructions.

2.05 ESCUTCHEONS

- A. Cast iron or cast brass set screw type.
- B. Pressed steel.
- C. For exposed piping through floors or walls.
- D. Finish at exposed walls: Chrome plated.

2.06 NAMEPLATES AND DEVICE PLATE MARKINGS

- A. Install nameplates on all electrical equipment supplied under his Contract. This shall include all safety switches, motor starting switches, motor starters, control cabinets, panels, temperature motor control centers, and unit substations designating the equipment served.
- B. Plates shall be laminated plastic 1/2" x 2" or larger in dimension, fastened with counter sunk oval head chrome plated machine screws. Lettering shall be 3/16" high engraved black on white plated.

(Nameplates shall be plastic glued back punched letters as produced by Dymo labeling devices. Letters shall be 1/4" high).

- C. Submit an itemized schedule of proposed markings for approval.

2.07 PIPE SUPPORTS, HANGERS, AND INSERTS

- A. Provide one of the following types of hanger for overhead support of horizontal piping:
  - 1. For copper tubing where hangers are in direct contact with tubing, use clevis type steel hanger, copper plated with supporting rod to suit.
  - 2. For all piping 2 1/2" and larger: Use clevis type hangers.
  - 3. Piping 2" and smaller: Swivel ring type.
  - 4. Provide supporting rods for hangers of diameter as indicated and where not indicated, as specified under "Horizontal Pipe Supports Schedule" hereinafter, of lengths as required, with double locknuts for each.
- B. Where hanger rods leave unsightly holes in ceilings in finished areas, provide steel ceiling plates or cast iron ceiling plates with set screw.



- C. Provide one of the following to support horizontal piping from wall:
  - 1. Where no provision for expansion and contraction is required and pipe can be located close to wall, use steel J-hook, suitable for pipe sizes up to 3".
  - 2. For hanger suspension, 750 lb. maximum loading, use light welded steel bracket with hole for one rod up to 3/4" diameter. For additional rod suspension, use with this bracket steel clip for pipe sizes up to 3".
- D. Vertical piping supports for copper tubing where hangers are in direct contact with tubing, use copper tubing riser clamps. For steel cast iron pipe use steel extension pipe clamps.
- E. Where beam clamps are required, use malleable iron "C" clamps with case hardened cup pointed set screw and retaining strap or beam clips as required or directed.
- F. Concrete inserts shall be approved for local use and shall be black malleable iron universal type, for threaded connections with lateral adjustment, top slot for reinforcing rods, lugs for attaching to forms.
- G. All insulated pipe shall be protected at supports by pipe saddles. Pipe saddles for use on hangers shall be Insul-Shield pipe saddles as manufactured by Insul-Coustic Corp. or approved equal.
- H. Steel anchors of an approved design shall be provided where indicated or required for proper control of stress in piping due to expansion. Anchors shall be made of structural materials of heavy cross section and securely fastened to building construction. Submit detail drawings of approval installation.
- I. Provide pipe alignment guides where indicated, required or directed, to guide the expanding pipe to move freely from anchor points in expansion joints, loops or bends. Construct with angles or channels. Submit detail drawings for approval before installation.
- J. Acceptable Manufacturers
  - 1. Pipe supports shall of the following type and figure number, manufactured by C&P, F&M, Grinnell, or equal as approved:
  - 2. Pipe Hanger Schedule:

	<u>C&amp;P</u>	<u>F&amp;M</u>	<u>Grinnell</u>
Beam Clamp	268	282	----
Clevis Hanger	100	239	260
180° Shield	265P	80	----



Pipe Saddle	351	170 & 180 series	1700 series
Rigid Trapeze U-Bolt	371 382	176	Std. 45 137
Riser Clamp	89 or 126	241	261
Double Bolt Pipe Clamp	304	261	295
Welding Beam Attachment	113B	751	66
Insert	650	----	280
Continuous Slotted Insert	1480	190	----

3. Insulation Protection

For all insulated pipe furnish clevis hangers with welded shields and equal to C&P, Inc., Fig. 100-SH.

K. Pipe Supports in Pipe Chases

Supports shall securely hold piping, prevent vibration, etc. Provide pipe supports and channels as required made grade KJA Cylolac DH self-extinguishing ABS as manufactured by the Summer Corporation or equal.

2.09 PAINT MATERIALS

A. Factory mixed and delivered to the premises in original sealed containers, with unbroken seals. Containers shall bear the name and trade brand of the manufacturer and must indicate compliance with Federal Specifications, as noted below. Materials shall be approved by the Owner before they are used. Before beginning the painting work submit an affidavit to the Owner stating that all materials proposed comply with this specification.

B. Materials shall comply with the requirements of Federal Specification TT sections as follows:

Aluminum Paint (ready mixed)	P-0038c
Asphaltum Paint	V-51c
Black Paint	P-61d
Colors in Oil	P-381c(2)
Enamel Undercoat	E-543a
Galvanized Iron Primer	P-6411f
Gloss Enamel	E-489f
Iron (Red) Oxide	P-31c
Latex Base Paint	P-29h
Lead, Zinc and Titanium Paint	P-102b
Turpentine	T-801c
Zinc Chromate Primer	P-636b



## **PART 3 - EXECUTION**

### **3.01 SUPERVISION**

- A. All work shall be performed by competent mechanics under supervision of an experienced erection supervisor. Upon initiation of construction, keep a suitable force for men (including supervisory personnel) on the site at all times in order to place all sleeves, inserts, and fixtures, and provide all other openings as are required for the satisfactory installation of equipment.

### **3.02 COORDINATION**

- A. Schedule construction and time limitations for each phase of the work. Work shall be coordinated to permit proper setting of the work of other trades.
- B. Where piping work and appurtenances are in place prior to completion of adjacent concrete and masonry work, they must be protected against damage and displacement until construction is completed.

### **3.03 CUTTING AND PATCHING**

- A. Cutting:
  - 1. Provide sleeves for all items furnished and set in new construction. Sleeves in exterior walls or located where moisture must be restricted shall consist of schedule 40 black steel pipe cut to match thickness of wall or floor. 1/4" thick steel plate extending 2" beyond the outside diameter shall be continuously welded midway of the length of the sleeve. Pipe or conduit shall be accurately centered within the sleeve. The remaining annular space shall not be less than 1/2" for pipe up to 3", 3/4" for pipe greater than 3". Impregnated rope shall be packed in, at both ends to a point giving a 2" recess in the annular space. The remaining 2" recess shall be sealed with a resilient, non-hardening sealer, Tremco Mono-Lasto-Meric or approved equal.
  - 2. Cutting, chasing, or core drilling in the existing building shall be done by this Contractor. Where existing foundations or walls below grade are involved, specific instructions shall first be obtained from the Commissioner.
  - 3. Holes through concrete and masonry shall be cut by rotary core drill. Pneumatic hammer, impact electric, and hand or manual hammer type drill will not be allowed, except as permitted by Commissioner where working area space is limited.



4. Measure all existing openings such as doorways, shafts, windows, hatchways, etc., through which equipment may have to be transported or moved. Include in bid any and all necessary widening of existing openings, or any other change in the existing structure necessary to place his materials and equipment in the proper position. All such alterations or changes shall be completely restored to the original condition, including patching, immediately after the necessary is passed.
5. Cutting, chasing or core drilling will not be permitted in bearing walls, trusses, girders, or similar structural items unless special permission is obtained from the Commissioner. Be responsible for damages resulting from failure to observe this provision.
6. Waterproof membrane shall not be penetrated. Pipe floor penetration block outs shall be provided outside the extents of the waterproof membrane.
7. Where not indicated on drawings or specified as work by other trades, provide all holes, chases and openings in or through construction elements or equipment required for his work. Where such holes, chases and openings are not permitted by the Commissioner, relocate work to clear obstructions as directed. No additional compensation shall be allowed for this work.

B. Patching:

1. Restore surfaces to original condition with materials coordinated with the G.C.
2. Patching shall be done by men skilled in the trade but paid for by this Contractor. Finishes shall be restored to match the surrounding or adjacent surfaces perfectly in material, color and texture.
3. Patch painting shall be done by this Contractor.

3.04 TEMPORARY OPENINGS

- A. Temporary openings not indicated on the drawings which may be required for purpose of bringing equipment into building shall be provided as required subject to the approval of the Commissioner. Perform work of providing protecting and maintaining openings and of restoring structure.
- B. Holes provided in general construction work to permit installation of piping for temporary plumbing services shall, after removal of such piping, be patched as specified.

3.05 CLEARANCE FROM ELECTRICAL EQUIPMENT

- A. Piping is prohibited in all electric rooms and closets, telephone rooms and closets, and elevator machine rooms.





- B. Where transformers, switchboards, motor control centers, electric panels, motor starters, and variable speed drives are located in spaces other than those identified above, a minimum of 3 feet clearance to any equipment, ductwork or piping shall be maintained in front of all low voltage equipment (208 volts or less) and 3-1/2 feet in front of all high voltage equipment (460 volts). This work space shall extend from the floor to the height of the equipment, but not less than 6 1/2' above floor. The width of the workspace shall equal the equipment width but not less than 30".
- C. Where transformers, switchboards, motor control centers, electric panels, motor starters, and variable speed drives are located in spaces other than those identified above, no piping shall be permitted up to the slab above the equipment footprint.

### 3.06 TESTING, ADJUSTING AND BALANCING

- A. Make all required adjustments to Plumbing system devices until all specified performances are met. Before commencement of construction, test existing equipment to establish output, etc. Submit certified reports indicating motor and compressor amperage draw, rpm, discharge pressure, suction pressure and setting of all controllers.

### 3.07 CLEAN-UP

- A. Be responsible for the general clean-up of all areas affected by the work in the Contract. All rubbish and accumulative material shall be removed from the premises and the premises left "broom clean" upon completion.

### 3.08 PIPE HANGER AND SUPPORT INSTALLATION REQUIREMENTS

- A. Provide necessary structural members, hangers and supports of approved design to keep piping in proper alignment and prevent transmission of injurious thrusts and vibrations. In all cases where hangers, brackets, etc., are supported from concrete construction, care shall be taken not to weaken concrete or penetrate waterproofing. All hangers and supports shall be capable of screw adjustment after piping is erected. Hangers supporting piping expanding into loops, bends and offsets shall be secured to the building structure in such a manner than horizontal adjustment perpendicular due to expansion. All such hangers shall be finally adjusted, both in the vertical and horizontal direction.
- B. Where piping is run near the floor and not hung from the ceiling construction but is supported from the floor, such supports shall be of pipe standards with base flange and adjustable top yoke, 101 or equal.
- C. Except where otherwise noted, piping shall be supported from structural steel only. Provide supplementary steel where required.
- D. Hanger Spacing:
  - 1. Horizontal steel piping shall be supported as follows:



PIPE SIZE (Inches)	ROD DIAMETER (Inches)	MAXIMUM SPACING (Feet)
Up to 1	3/8	8
1 ½ to 2	3/8	10
2 ½ to 3	1/2	12
4 to 5	5/8	15
6	3/4	17
8 to 12	7/8	20

2. Horizontal copper piping shall be supported as follows:

PIPE SIZE (Inches)	ROD DIAMETER (Inches)	MAXIMUM SPACING (Feet)
Up to 1	3/8	5
1 ¼ to 2	3/8	8
2 1/2	1/2	9
3 to 4	1/2	10

- E. All hub or joint pipe shall be supported within the above recommendations for steel and at each joint.
- F. Plastic piping systems such as (polyvinyl chloride pipe (PVC) and polypropylene piping) shall be supported at intervals recommended by the manufacturer for a 120°F fluid temperature. Other specialty piping systems, such as PVDF tubing for specialty water systems, shall be continuously supported as recommended by the manufacturer.
- G. All pipes shall be supported within one (1) foot of elbows, valves, flanges, or fittings.
- H. All vertical piping shall be supported at 10 feet maximum intervals or designed as necessary to meet MSS guidelines.

### 3.09 SUPPORTS, HOUSEKEEPING PADS AND STANDS

- A. Housekeeping Pads:

1. Housekeeping pads will be provided by the CONTRACTOR.
2. Provide to the CONTRACTOR dimensions, size of foundation bolts, methods of setting, aligning and anchoring of equipment as recommended by manufacturer



of equipment. Make minimum height above finished floor 4" and extend outer edges 2" minimum beyond machinery bed-plate. Submit shop drawings for approval.

3. Supply to the CONTRACTOR foundation bolts, sleeves, washers, nuts and templates to locate position of bolts. Make sleeves of steel pipe; finish flush with top of rough concrete. For anchorage, make embedded end of bolts hooked, or threaded with nut and square plate.
4. All concrete equipment bases that are installed on vibration isolators, all anchor and thrust blocks and all piping supports in trenches shall be provided under the work of this Section.
5. All concrete work shall conform to A.C.I. standards.
6. Provide 1" thick grouting between machinery base plate and concrete pad; fill completely the space between them. Clean top of pad; wet before grouting. Do not remove leveling wedges before grout reaches its final set. Fill voids left by removal of wedges with grout to make neat appearance.

B. Where supports, stands and suspended platforms for machinery, tanks or other equipment are indicated or specified in mechanical work sections, perform as follows:

1. Design and construct supporting structures of strength to safely withstand stresses to which they may be subjected, and to distribute properly the load and impact over building areas. Conform to applicable technical societies' standards, also to codes and regulations of agencies having jurisdiction.
2. Locate supports for tanks so as to avoid undue strain on shell and interference with pipe connections to tank outlets.
3. For tanks containing tubes, check support locations for clearances to pull tubes.
4. Mount power-driven equipment on common base with driver, unless otherwise indicated, specified or approved.
5. Submit detailed shop drawings of all supports; obtain approval before fabricating and constructing.

C. Floor Stands:

1. Unless otherwise indicated, where equipment is indicated or specified to floor mounted on stands or legs, construct of structural steel members or steel pipe and fittings; brace and fasten with flanges bolted to floor.

D. Suspension Support for Pipes, Equipment:



1. Unless otherwise indicated, all pipes and equipment that are suspended shall be connected directly to the building steel. Where hangers are required between building steel points, supplementary steel members shall be added by the Contractor as required to adequately support the load.
2. Pipes shall not be supported from other pipes or equipment.

### 3.10 PAINING AND FINISHING

- A. Paint apparatus, equipment, piping, coverings, hangers, supports, and foundations, except otherwise specified. For performing this work, employ an experienced subcontractor specializing in painting work and approved by the Owner.
- B. Where a priming coat or other painting is specified under other sections of the specification, such coat shall not be considered as one of the coats of paint specified in this section.
- C. Piping and covering concealed in hung ceilings, in furred-out spaces and inaccessible locations are not required to be painted at the site. However, piping, insulation facing, etc., located in accessible spaces in basement, pipe space, crawl space or cellar shall be painted as specified. Piping in trenches and piping laid in the ground shall also be painted as specified.
  1. Except for finish brass piping, chrome plated piping and galvanized pipe which shall not be painted, exposed uninsulated piping, including hangers, installed by this Contractor throughout the building, shall be cleaned and then given one (1) coat of primer and one (1) coat of enamel, color as required.
  2. Exposed pneumatic valves and air piping in finished rooms in and above basement or cellar shall be painted. Conduit or troughing enclosing pneumatic tubing shall not be painted.
  3. Piping in floor trenches within the building shall be painted after fabrication with one (1) coat of black asphaltum paint.
  4. All exterior, underground, natural gas piping and fittings shall be coated with Hill-Hubbell Spec. BAX-1 pipe covering or approved equal. Buried tees or elbows shall be similar to pipe. All underground piping shall be mill-wrapped.
- D. Workmanship
  1. Paints shall be applied in a careful manner by painters experienced and skilled in their trade. Materials or work to which paint is to be applied, whether in factory, in ship, or at the site, shall be properly prepared to receive the same. The



surfaces shall be dry, free from foreign matter, dirt, cement, plaster, grease, oil, loose paint, scale, scratches, finger marks, and pencil marks. The various surfaces shall be sandpapered or rubbed before and between coats as required to produce a satisfactory surface. No paint shall be applied until the preceding coating is thoroughly dry. Paint shall be evenly spread and well brushed out. It shall be so applied as to eliminate drops, runs or sagging of materials. Enamel shall be evenly and smoothly flowed on. Painting at the site shall not be commenced until ordered by the Owner.

2. Drop clothes shall be used to prevent drops of paint and oil from defacing the painted walls, woodwork, floors, stairs, convectors and furniture. Contractor shall be particularly careful not to get paint on nameplates, valve tags, and on other finished surfaces. Paint spots shall be properly removed from floors and finished surfaces.
  3. Each separate application or coat of paint or enamel shall be left until it has been inspected and approved by the Owner before another coat is applied. Each coat of paint applied prior to finishing coat shall be of a shade different from preceding coat, as directed, and from final coat.
  4. Where the finished surfaces of the building have become discolored, marred, damaged or otherwise destroyed in the performance of this Contract, the same shall be refinished, painted or varnished (as the case may be) in the best manner of such work and in every respect equal to the work previously existing.
- E. Masonry foundations built by this Contractor shall be painted above the floor with two (2) coats of latex paint, color selected by Architect.
- F. Pumps, housings, motors, tanks, air compressors, air storage tanks, auxiliary appliances, and exposed metal supports and framework, furnished and installed under this contract shall be given a shop priming coat of rust-inhibiting paint standard with the manufacturer, and after all other work is finished, one (1) coat at the site with lead and oil paint, or color selected. If not factory painted housings made of aluminum or fiberglass shall not be painted. Equipment finish-painted at the factory may not be required to be painted over at the site, provided finish painting is not damaged and is in good condition at completion of project.

### 3.11 IDENTIFICATIONS

#### A. Piping System:

1. All piping systems shall be identified by the name of contents and the direction of flow in accordance with ANSI A13.1.
  - a. Comply with the requirements of the New York City Building Code.



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2. Name of contents and directional arrows shall be placed near each valve, on both sides of pipes passing through walls, on long pipe runs at 30-foot intervals.
3. Names of contents and directional arrows shall be laminated in plastic and wraparound pipe marker as manufactured by Seton Nameplate Co., or approved equal.

B. Equipment:

1. All items of plumbing equipment shall be identified by approved nameplates by Contractor furnishing equipment.
2. Nameplates shall be securely affixed to each individual piece of equipment and also to controls for that equipment.
3. Nameplates shall be aluminum 2-1/2" x 3/4" with black enamel back-ground etched or engraved natural aluminum lettering. Manufacturer shall be Seton Nameplate Company or approved equal.
4. Equipment shall be identified as to its type and unit number.

C. Valves:

1. Identify valves and other parts of mechanical systems by means of polished and lacquered brass or aluminum tags, minimum 1- 1/2" round or octagonal, with stamped letters and numbers 1/2" high and filled with black paint. Tag must bear name of particular plumbing or sprinkler system involved and identifying number.

D. Charts:

1. Charts of valves including valve identification number, location and purpose shall be furnished in duplicate.
2. Charts of piping system identification shall be furnished in duplicate. Charts shall include the following:
  - a. Service
  - b. Color field
  - c. Legend
  - d. Color of letters
3. One (1) copy of each chart shall be mounted in a wood frame with clear glass front, and secured to wall, as directed.



4. Second chart shall be prepared for use in location as directed, provided with approved transparent plastic enclosure for permanent protection. Two (2) holes shall be furnished at top of plastic enclosure to allow for affixing an 8" length of nickel-plated bead chain. Each hole to be reinforced by a small brass or nickel grommet.

### 3.12 PIPE PENETRATIONS AND FIRE STOPPING

- A. Pipe penetration sleeves shall be installed for all pipe other than rectangular blocked out floor openings for risers in mechanical bays. Install a firestop that provides an effective barrier against the spread of fire, smoke and gases. Fire-stop material shall be packed tight and completely fill clearances between pipe, sleeves, or cores.
- B. Pipe penetration sleeve materials shall comply with all fire stopping requirements for each penetration. Fire-stopping material shall maintain its dimension and integrity while preventing the passage of flame, smoke and gases. Fire-stopping material shall be non-combustible as defined by ASTM E136.
- C. To prevent accidental liquid spills from passing to a lower level, provide the following:
  1. For sleeves: Extend sleeve 1 inch above finished floor and provide sealant for watertight joint.
  2. For blocked out floor openings: Provide 1-1/2 inch angle set in silicone adhesive around opening.
  3. For drilled penetrations: Provide 1-1/2 inch angle ring or square set in silicone adhesive around penetration.
- D. Sheet metal sleeves shall be provided for pipe passing through floors, interior walls, and partitions, unless brass or steel pipe sleeves are specifically called for below.
- E. Cast iron or zinc coated pipe sleeves shall be provided for pipe passing through exterior walls below grade. The space between the sleeve and pipe shall be made watertight with a modular or link rubber seal. The link seal shall be applied at both ends of the sleeve.
- E. Galvanized steel or an alternate black iron pipe with asphalt coating sleeves shall be for pipe passing through concrete beam flanges, except where brass pipe sleeves are called for. A galvanized steel Sleeve shall be provided for pipe passing through floor of mechanical rooms, laundry work rooms, and animal rooms above basement. Except in mechanical rooms, sleeves shall be connected with a floor plate.
- G. Brass Pipe Sleeves shall be provided for pipe passing through quarry tile, terrazzo or ceramic tile floors. The sleeve shall be connected with a floor plate.



- H. Sleeve clearance through floors, walls, partitions, and beam flanges shall be 1 inch greater in diameter than external diameter of pipe. Sleeve for pipe with insulation shall be large enough to accommodate the insulation plus 1 inch in diameter. Interior openings shall be caulked tight with fire stopping material and sealant to prevent the spread of fire, smoke, and gases.

### 3.13 ACCESS PANELS

- A. Supply access panels for the installation to the CONTRACTOR for concealed valves, expansion joints, valves, traps, strainers and other parts requiring accessibility for operation and maintenance.
- B. Access panel size shall be as indicated; when not indicated, make 18" x 18" minimum or larger as directed or required.
- C. Frames shall be 16-gauge steel.
- D. Access panels for use on masonry, tile, and drywall shall have frames with flanges to hide rough openings in walls.
- E. When access panels or doors are installed in fire-rated construction they shall be fire rated to match the construction.

### 3.14 ELECTRICAL WIRING DIAGRAMS

- A. Electrical wiring for safety, interlocks, and controls for motors, motor starters and other electrical apparatus and devices shall be provided by this Contractor regardless of voltage. Power wiring will be by the Electrical Contractor will be under another Division.
- B. Prepare and submit for approval terminal point to terminal point completely coordinated and integrated wiring diagrams for all wiring.
- C. Submit specific wiring diagrams for factory-installed equipment wiring.

a.

### 3.15 INTERFERENCE WITH THE OWNER'S NORMAL OPERATION

- A. All work shall be performed in such as not to interfere with the normal work operations in adjacent spaces or buildings.
- B. Do not block or restrict the means of egress of adjacent spaces, decrease the fire ratings of walls, partitions, ceilings, doors or combination thereof of adjacent spaces or means of





gress, interrupt safety systems or in any way adversely affect the safety of people or materials.

- C. Provide containment measures to prevent dirt, dust or fumes from reaching adjacent work spaces.
- D. All personnel traffic and material delivery shall be routed so as to absolutely minimize travel through adjacent work areas.

3.16 CONNECTIONS TO EXISTING WORK

- A. Connect new work to existing with minimum interference.

3.17 TEMPORARY SERVICE

- A. Temporary services are specified under DDC General Conditions

3.18 PREMIUM TIME WORK

- A. The following work shall be performed at night or weekends other than holiday weekends as directed and coordinated with the Owner:
  - 1. Any work requiring interruption of existing services.
  - 2. Any work, which interferes with or interrupts the normal work being performed in spaces or buildings adjacent to the work area.

**END OF SECTION 220511**



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Project Title: Center for the Women of New York  
Fort Totten, Bayside, NY 11359

COMMON WORK RESULTS  
FOR PLUMBING  
220511- 26



## SECTION 220513

### PLUMBING SYSTEM TESTS

#### PART 1 – GENERAL

##### 1.01 GENERAL REQUIREMENTS

- 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. Work of this specification as shown or specified should be in accordance with the requirements of the Contract Documents.

##### 1.02 WORK INCLUDED

- A. Work of this Section includes all labor, materials, equipment and services necessary to provide Plumbing System Testing as shown on the drawings and as specified herein.

##### 1.03 RELATED WORK

- A. Common Work Results for Plumbing -Section 220511
- B. Water Distribution Piping -Section 221100
- C. Sanitary, Waste, and Storm Drainage -Section 221300
- D. General Duty Valves for Plumbing Piping -Section 220523
- E. Plumbing Equipment and Accessories -Section -Section 223000
- F. Plumbing Fixtures -Section 224000
- G. Common Work Results for Fire Protection -Section 210511
- H. Fire Standpipe and Automatic Sprinkler System -Section 211313

##### 1.04 QUALITY ASSURANCE

- A. Plumbing Code
- B. N.F.P.A. – National Fire Protection Association
- C. A.G.A. – American Gas Association
- D. C.G.A. – Compressed Gas Association



1.05 SUBMITTALS

- A. Certification.

1.06 SPECIFIC REQUIREMENTS

- A. All tests shall be made in the presence of the Architect, or their representatives, and the local authorities having jurisdiction of the work to be tested, as may be directed; and at least 72 hours notice shall be given in advance of all tests.
- B. The Work of this Contractor shall include the furnishing of all testing instruments, gauges, pumps, smoke machines, and other equipment required or necessary for tests, required by laws, rules and regulations and as specified.
- C. Provide all other tests required by local inspectors and all other authorities having jurisdiction.
- D. All appurtenances shall be operated after installation to determine whether or not they meet the requirements of the Specifications.
- E. All defects disclosed in the work by tests and otherwise shall be made good or the Work replaced without additional cost to the Owner. No caulking on screwed joint, cracks or holes will be acceptable.
- F. Tests shall be repeated after any defects disclosed thereby have been made good or the work replaced if it is deemed necessary.
- G. All tests shall be made at the expense of the Contractor.
- H. Tests are not permitted to be made with air except as noted.
- I. Contractor to provide required test plug tee fittings during erection of pipe system.
- J. If the pipe, installation fails to meet testing requirements, the Contractor shall determine at his own expense the source or sources of leakage, and he shall repair or replace all defective materials or workmanship. The completed pipe installation shall meet the requirements of the tests after the leaks have been corrected.
- K. All piping which is to be enclosed in partitions or hung ceilings shall be tested and made tight when directed by the Construction Supervisor and in adequate time to permit the installation of partitions and ceilings. When necessary, the Contractor shall drain the piping and/or take such precautions as required to prevent damage by freezing.



- L. The Contractor shall also be responsible for the work of other trades that may be damaged or disturbed by the tests, or the repair or replacement of this Work, and he shall, without extra charges, restore to its original condition, any Work so damaged or disturbed.

## **PART 2 – PRODUCTS**

NOT APPLICABLE.

## **PART 3 – EXECUTION**

### **3.01 WORK PERFORMED PRIOR TO TESTING**

- A. Water Systems:
1. Flushed, filled and vented.
  2. Correct pump rotation.
  3. Proper strainer baskets clean and in place.
  4. Temporary start-up strainer baskets removed.
  5. Service and balance valves open.

### **3.02 BALANCING**

- A. Balance and adjust water systems.
1. Examine system and position valves and cocks in their required open or closed position.
  2. Make all adjustments as required to balance system and equipment.
- B. Mark valve tag of each valve or cock used for balancing to indicate position of valve stem.
- C. Make repairs to all leaks or defects without additional cost to the Owner.



### 3.03 FINAL WATER SYSTEM BALANCING

- A. Provide final balancing and adjustments to water systems after Contractor corrects all deficiencies. Final balancing shall incorporate all Commissioner comments on Preliminary Balancing Report.
  - 1. Make all final adjustments as required to balance system and equipment. Submit report indicating final GPM to all risers and equipment. Report shall indicate final performance characteristics for pumps including total GPM, total dynamic head and actual motor amps.
- B. Mark valve tag of each valve or cock used for balancing to indicate position of valve stem.

### 3.04 TESTING OF AUTOMATIC CONTROLS

- A. In cooperation with the control manufacturer's representative, adjust controls to operate as specified. Testing personnel shall check all controls for proper calibrations and list all controls requiring adjustment by control installers.

### 3.05 DOMESTIC WATER SYSTEM STERILIZATION

- A. The potable water system shall be disinfected prior to use. Samples shall be taken as required by the department of health. The method to be followed shall be that as prescribed by the Department of Health, by the following:
  - 1. The pipe system shall be flushed with clean, potable water until not dirty water appears at the outlets.
  - 2. The system or part thereof shall be filled with a water-chlorine solution containing at least 50 parts per million of chlorine and the system or part thereof shall be valved off and allowed to stand for 24 hours or, the system or part thereof shall be filled with a water-chlorine solution containing at least 200 parts per million of chlorine and allow to stand for 3 hours.
  - 3. Following the prescribed standing time, the system shall be flushed with clean potable water until no excess chlorine remains in the water coming from the system.
  - 4. The procedure shall be repeated if it is shown that contamination still persists in the system.
  - 5. Certify through an independent testing laboratory the quality of purity. Submit test results to Architect.



3.06 PIPING SYSTEM TESTS – GENERAL

- A. Each piping system shall be tested prior to application of insulation, painting or placing of backfill. Testing as stipulated herein shall be considered minimum, and where tests stipulated by lawfully jurisdictional authorities exceed these requirements, such more stringent tests shall be performed.
- B. All materials and equipment for testing shall be furnished by the installer of the system. Concealed work shall remain uncovered until required tests have been completed. In the event that the project construction schedule requires it, make arrangements and insert proper sectionalizing devices so that a portion of a system may be tested.
- C. All piping, unless otherwise specified, shall be tested to a hydrostatic pressure at least 2-½ times the maximum designed working pressure (but not less than 50 psig) for a sufficiently long time to detect all leaks and defects, and after testing, shall be made tight in the most approved manner.
- D. Where controls and accessories are not designed to withstand pipe test pressures, they shall be properly protected against damage during such test.
- E. Compressed air piping for temperature control line shall be subjected to an air pressure test of 50 psig and connections checked with soapsuds.
- F. If in any tests leaks are observed, the defective work or material shall be replaced. No caulking of screw joints or holes will be acceptable. Repetition of the entire test will be required as many times as leaks can be observed from the tests, until no leaks result in successful completion of the test.
- G. Make all provisions for removal of test equipment and draining of pipes after tests have been completed. Insulation work shall not be performed prior to inspection and testing of piping.
- H. The Contractor shall inform the Commissioner in writing when a section of piping is to be tested and subsequently insulated or otherwise concealed. Such notice shall be given a minimum of five (5) working days prior to the start of testing.
- I. Where possible, arrange to conduct tests under constant ambient temperature conditions in order that compensation for temperature change is not necessary.



3.07 INTERIOR DOMESTIC WATER SYSTEMS

- A. Domestic cold, hot and hot water circulation system: The entire water supply system shall be tested to a hydrostatic pressure of 150 pounds per square inch or 1- ½ times the system pressure, whichever is greater, at lowest point of the water system in the building, and proved tight at this pressure before fixtures are installed. Water supply piping, if in any way concealed by structural work, shall be tested to the aforesaid pressure and proved tight before pipes are concealed.
- B. The test procedure shall be held for a period of not less than two (2) hours. The piping system shall be considered tight if the drop in pressure does not exceed 2 pounds per square inch during the test period. If the pressure drop exceeds 2 pounds, all repairs and alternations in the pipe system necessary to meet the test shall be made.

3.08 DRAINAGE AND VENT PIPING INSIDE BUILDING:

- A. Rough Plumbing: Except for outside leaders and perforated or open jointed drain title (subsoil drains), the piping of plumbing drainage and venting system shall be verified as to materials and shall be tested upon completion of the rough piping installation and proven to be watertight. The Commissioner may require the removal of any cleanout plugs to ascertain that the prescribed pressure has been reached in all parts of the system.
  - 1. Water Test: A water test shall be applied to the drainage system either in its entirety or in sections after rough piping has been installed. If applied to the entire system, all openings in the piping, except the highest opening, shall be tightly closed and the system filled with water to the point of overflow. If the system is tested in section, each opening, except the highest opening of the sections under test, shall be tightly plugged and each section filled with water. No section shall be tested with less than a 10 ft. head of water. In testing successive sections, at least the upper 10 ft. of the following section shall be tested, so that no joint or pipe in the building (except the uppermost 10 ft. of the system) shall have been submitted to a test of less than 10 ft. head of water. The water shall be kept in the system or in the portion under the test for at least 15 minutes before inspection starts; the system shall then be tight at all points.
- B. Finished Plumbing: After the plumbing fixtures have been set and their traps filled with water, the entire drainage system shall be verified as to materials, and shall be tested and proven gastight by either a smoke test or a peppermint test.
  - 1. Smoke Test: The smoke test shall be made by filling all traps with water and the introducing into the entire system a pungent thick smoke produced by one or more smoke machines. When the smoke appears at stack openings of the roof, these openings shall be closed and a pressure equivalent to a 1" water column shall be maintained for the period of the inspection.





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2. Peppermint Test: The peppermint test shall be made by introducing 2 ounces of oil of peppermint into the roof vent terminal of every line or stack to be tested. The oil of peppermint shall be followed at once by 10 quarts of hot water (160 degrees F or higher), whereupon all roof vent terminals shall be sealed. The detection of the odor of peppermint at any trap or other point in the system shall determine the location of any leaks. Persons who have come in contact with oil of peppermint shall be excluded from the test area.

### 3.09 FIRE STANDPIPE/SPRINKLER SYSTEM

- A. Before any paint is applied, the fire standpipe system shall be tested hydrostatically at not less than 200 psi pressure for two (2) hours minimum, and in accordance with all requirements of the authorities having jurisdiction and NFPA latest edition.
- B. Before any paint is applied, the dry standpipe system shall be tested by air pressure to 40 psig for a period of 24 hours. Leakage in excess of 1- ½ psig will not be acceptable.

**END OF SECTION 220513**



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PLUMBING SYSTEM TESTS  
220513 - 8



## SECTION 220514

### MOTORS AND MOTOR CONTROLLERS

#### PART 1 – GENERAL

##### 1.01 GENERAL REQUIREMENTS

- 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. Work of this specification as shown or specified should be in accordance with the requirements of the Contract Documents.

##### 1.02 WORK INCLUDED

- A. Work of this Section includes all labor, materials, equipment and services necessary to complete the Electric Motors, Motor Controllers as shown on the drawings and as specified herein, including but not limited to the following.
1. Furnish and install motors required for plumbing equipment.
  2. Furnish motor starters required for plumbing equipment.
  3. Coordination of the installation of motors and starters.
  4. Motor control actuating and actuated devices required for plumbing equipment.
  5. All control wiring other than power wiring.

##### 1.03 RELATED WORK

- A. Plumbing equipment.  
B. Electrical specifications for installation of motor starters and power wiring.

##### 1.04 QUALITY ASSURANCE

- A. NEMA  
B. New York City Electrical Code  
C. IEEE



## 1.05 SUBMITTALS

### A. Shop Drawings:

1. Wiring diagrams of all manufactured equipment.
2. Electrical equipment terminal-to-terminal point connections.
3. Elementary diagrams.
4. Integrated and coordinate wiring for safety and interlocking controls for motor starters and motor actuating and actuated devices.
5. Motor nameplate data including: Motor horsepower, full load amperes, voltage, number of phases, service factor and locked rotor amperes. Include manufacturers recommended overcurrent device and thermal overload.
6. Provide starter shop drawing indicating manufacturer, size, type, number of poles, and voltage.

### B. Materials Data: Manufacturer's printed data, test data, recommendations and installation.

## 1.06 DEFINITIONS

- A. Power Wiring (Motor Power Circuit): Power circuit operating at 120 volts or more, and carries electrical input energy to starter and from starter to motor.
- B. Control Wiring (Motor Control Circuit): Other than power wiring, all other wiring intended for directing or indicating the performance of a motor starter, including connections to actuating and actuated devices.
- C. Motor Actuating Device: Any device performing a switching function in a motor control circuit (i.e., pushbuttons, hand-off-automatic switches, automatic contacting devices, time clocks, etc.).
- D. Motor Actuated Device; any device which functions in response to voltage received from a motor control circuit (i.e., pilot lights, solenoids, PE, EP, damper motors, etc.).

## 1.07 WARRANTY

- A. Motors and Controls: Provide written 1 year material and parts warranty issued by the manufacturer upon completion of the work.

## **PART 2 – MATERIALS**



## 2.01 MOTORS

### A. General:

1. Motors shall be of proper power and speed to suit the specified makes of equipment. If other makes of equipment (other than specified) are accepted, the proper adjustment of motor speed and power must be included without additional cost. Sizes and types shall be submitted for approval before the equipment is purchased.
2. Motors shall be open drip-proof, squirrel cage induction motors rated at 1,750 rpm or 3,500 rpm, as scheduled. Where motors are multi-speed, speeds shall be as scheduled or specified.
3. Motors voltage shall be as scheduled or specified.
4. Unless otherwise specified, motors shall be suitable for operation in either direction of rotation.
5. Motors shall be built in accordance with current NEMA standards (MG-1), except as noted in these specifications.
6. Motors shall be NEMA Design B unless otherwise noted.
7. Fractional horsepower motors less than 1/2 HP shall be 120 volt, single phase, 60 Hz. Motors 1/2 HP and above shall be 60 Hz, three phase with voltage as scheduled or specified.

### B. Insulation:

1. Insulation system employed shall have been tested by the manufacturer and will be Class B or F.
2. Temperature rise shall be in accordance with NEMA limits for the Class of Insulation, Service Factor and Enclosure specified.
3. Unless noted otherwise, motors will be rated for 40 degrees C ambient operation.

### C. Mechanical:

1. Motors shall be built in NEMA standard T-Frame sizes.
2. Dripproof and totally enclosed motor frames will be of rugged construction and material will be steel, aluminum or cast iron.



3. End bracket will be of cast iron or aluminum construction and aluminum must have steel inserts in the bearing relubrication.
4. Bearings will be anti-friction type and bearing housings will be equipped with plugged provision for relubrication.
5. Bearings will be rated for minimum L-10 life of 20,000 hours assuming bearing load to be calculated with a NEMA minimum V-belt pulley, so located that the center line of the belt load will be located at the end of the NEMA standard shaft extension.

D. Noise Levels:

1. Sound power levels for all motors will be no greater than the guidelines recommended by NEMA Standard MG1-12.49.

E. Tests and Test Data:

1. Motors will be 100% production tested and quality control checked to assure compliance with this specification.
2. The insulation system will be tested by procedure outlined in NEMA Standard MG1-12.03.
3. A load test will be performed on each motor to assure compliance with the energy-efficiency section of this specification.
4. Typical test data on each motor will be available if requested.

## 2.02 MOTORS STARTERS

A. Fractional Horsepower Starters for Motors less than 1/2 HP:

1. Thermal overload relay with field adjustment capability.
2. NEMA I general purpose enclosure with flush mounted enclosure and plate.
3. Quick-make, quick-break mechanism.
4. Pilot light indicating activation.
5. Speed control, where indicated.
6. Magnetic starter type with HOA switch where required to be automatically controlled by a motor actuating device.



- B. Starter for Motors 1/2 HP and above:
1. Combination magnetic starter with unfused, disconnect switch, unless indicated to be fused, or of the circuit breaker type.
  2. Provide an individually fused transformer to permit external control circuit operation at a nominal voltage of 120 volts. Ground unfused secondary wire.
  3. Provide NEMA I Class A enclosure with running overload relay and disconnect for each pole.
  4. Size fusible switch gaps for the time delay type fusing. For combination circuit breaker. Provide ambient compensating features extending to 50 degrees C.
  5. Magnetic Starters NEMA Size 3 and larger: Equipped with an auxiliary control circuit relay arranged to permit the actuation of the starter without introducing holding coil currents into the external control circuit.
  6. Magnetic Starters NEMA Size 5 and larger, Intended to Operate at a Power Circuit Voltage in Excess of 250 Volts Line-to-Line: Equipped with an integral phase failure protection relay system.
  7. Equip starter with a low voltage, manual reset "lockout" relay arranged to open the main holding coil circuit following a loss of line voltage, and then to maintain contact features (if any) in the external control circuit.
  8. Where specified or scheduled provide reduced voltage starter.
    - a. Locked rotor motor current shall not exceed value given in NEMA Standard MG-1.
    - b. At no time during the starting and running period following initial closing into the line shall be an "open conductor" condition exist in any phase of wiring up to the motor terminals.
    - c. Breakaway and accelerating torque produced by the motor during start-up: Adequate for the mechanical loading on the motor.
    - d. Starter Type: Magnetic, combination reduced voltage autotransformer with fused disconnect switch.
  9. Where motors are specified as multi-speed, provide multi-speed starter with speed and direction selector control switch.
  10. Where motors are specified to be reversible, provide reversing start and direction selector switch.



11. Combination Type Motor Starters: Equipped with approved padlock and key and a means for double padlocking its manual line disconnect in the open position.
12. Motor Starters: Equipped with an engraved lamincoid nameplate permanently fastened on the outside of the starter cover, with high white lettering on a black background identifying the motor and system controlled.
13. In addition to auxiliary contacts required for interlocking or indicating purposes, provide magnetic starters with one normally closed and one normally open additional contacts for future use.
14. Enclosure Sizes and Wiring Terminals of Motor Starters: Suitable for the application of copper power and control circuit wires.
15. Motor Starters, which are not part of Packaged Equipment: One manufacturer throughout the project.
16. Wire all starter control wires for external connection including spare auxiliary to terminal blocks. Each terminal block point is identified with unique number shown also on submitted wiring diagrams.

#### 2.03 MOTOR CONTROL ACTUATING AND ACTUATED DEVICES

- A. Furnish mount and wire up manual control actuating devices and pilot lights required in starter covers.
- B. Motors Control Actuating and Actuated Devices in the Starter Covers: Housed in NEMA Class I general purpose enclosures, except that where intended for use in damp or hazardous locations, provide enclosures of the proper NEMA classification of the conditions. Gang together in a single enclosure and wire up to a terminal block two or motor control actuating or actuated devices at a single location.
- C. Contacts with Motor Control Actuating Devices: Rated at not less than 10 amperes AC at 250 Volts regardless of the actual duty they are required to perform.
- D. Motor control actuated devices intended to operate in conjunction with motors supplied from power circuits having a voltage in the range of 100 to 125 volts and 200 to 250 volts: Suitable for operation in this range.
- E. Pushbuttons: Heavy-duty oil-tight return momentary type. Provide flush mounted in stainless steel faceplate with pilot light and label indicating equipment served, where stations are remotely located.
- F. Selector Switches: Heavy-duty oil-tight maintained contact type.





- G. Pilot Lights: Heavy-duty type with resistor or transformer, equipped with nameplates indicating the operating conditions they annunciate.
- H. Devices such as pushbuttons, pilot light and selector switches, where mounted in enclosure other than the cover of the starter: Equipped with nameplates indicating the motor with which they are associated and their function (on-off, manual-automatic, etc.).
- I. Nameplates: Engraved lamicoïd, permanently fastened lettering and a black background.

2.04 APPROVED MANUFACTURERS

- A. Motors: Gould, General Electric, Westinghouse, Baldor, Century or approved equal.
- B. Starters: Cutler-Hammer, Westinghouse, Square D, Allen-Bradley or approved equal.

**PART 3 – EXECUTION**

3.01 INSTALLATION

- A. Coordinate with other work described under “Related Work”.
- B. Comply with the requirements of the New York City Electrical Code for the control wiring work.
- C. Install in accordance with the equipment manufacturer’s instructions.
- D. Provide all control and interlock wiring for all provided plumbing equipment.

**END OF SECTION 220514**



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Fort Totten, Bayside, NY 11359

MOTORS AND MOTOR CONTROLLERS  
220514 - 8



**SECTION 220523**

**GENERAL DUTY VALVES FOR PLUMBING PIPING**

**PART 1 - GENERAL**

1.01 GENERAL REQUIREMENTS

- A. Work of this specification as shown or specified should be in accordance with the requirements of the Contract Documents.
- B. 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]

1.02 WORK INCLUDED

- A. Work of this Section includes all labor, materials, equipment and services necessary to the installation of valves as shown on the drawings and as specified herein, including but not limited to the following:
  - 1. Furnish and install valves and accessories.

1.03 RELATED WORK

- A. Common Work Results for Plumbing– Section 220511.
- B. Water Distribution Piping– Section 221100.
- C. Plumbing Insulation – Section 220711.
- D. Sanitary, Waste, and Storm Drainage - 221300

1.04 QUALITY ASSURANCE

- A. UL – Underwriters Laboratory
- B. New York City Building Code
- C. FM – Factory Manual



- D. AWWA – American Water Works Association
- E. ANSI – American National Standards Institute
- F. ASSE – American Society of Sanitary Engineering

1.05 SUBMITTALS

- A. Shop Drawings:
  - 1. Valves.
  - 2. Valve boxes and accessories.

**PART 2 – PRODUCTS**

2.01 BASE BID MANUFACTURERS

- A. Exterior valves:
  - 1. Clow
  - 2. Kennedy
  - 3. Stockham
  - 4. Mueller
  - 5. Or approved equal
- B. Interior valves:
  - 1. Victaulic
  - 2. Apollo
  - 3. Milwaukee
  - 4. Stockham
  - 5. Crane
  - 6. Watts
  - 7. Or approved equal



2.02 VALVES – GENERAL

- A. Provide all valves and piping accessories required to complete the installation of all plumbing systems indicated on the drawings and as specified.
- B. Provide valve tags and charts 2" diameter, 18 gauge aluminum or brass, embossed numbers filled in with black paint, fastened by heavy aluminum or brass hooks/chains on all valves and controls (except equipment shutoff valves).
- C. To assure uniformity and compatibility, all grooved end valves and adjoining couplings shall be supplied by a single manufacturer.
- D. Exterior domestic and fire protection water piping shall comply with Local Fire Department and Water Company. Exterior valves shall conform to all applicable requirements of American Water Works Association C500-61 Standard for Gate Valves for Fire Water Work Services.
- E. All valves for medical gases shall be U.L. listed and N.F.P.A. approved.

2.03 EXTERIOR FIRE PROTECTION VALVES

- A. Furnish and install all underground control valves and valve boxes for fire protection service and branches as indicated on the Drawings.
- B. 4" and larger:
  - 1. UL listed, FM approved.
  - 2. IBBM, mechanical joint ends, 175 psi wwp.
  - 3. Double disc, parallel seats.
  - 4. Seats, gaskets, bolts, and nuts per ASTM specifications.
- C. Valve Boxes:
  - 1. Three piece screw type to grade and coated with coal tar pitch.
  - 2. Cover with word "Fire" cast in.
  - 3. Valve key of required height.
- D. Install valves and valve boxes in piping as shown on the Drawings, and set plumb and centered with boxes places directly over valves. Earth fill shall be carefully tamped



around the valve box to a distance of 4 feet on all sides of the box or to undisturbed trench face if less than 4 feet.

- E. Vertical Indicating Post (P.I.V.): Cast iron construction, UL listed and FM approved for trench depth of 3'-6" to 5'-6".
- F. 3" and smaller:
  - 1. AWWA, mechanical joint ends, 200 psi wwp, IBBM.

#### 2.04 EXTERIOR DOMESTIC WATER SERVICE VALVES

- A. Furnish and install all underground control valves and valve boxes for water service and branches as indicated on the Drawings.
- B. Gate Valves:
  - 1. 3" and larger:
    - a. AWWA, mechanical joint, 200 psi wwp, IBBM.
    - b. Double disc, parallel sent, with operating nut. Valves open left.
    - c. Glands, gaskets, bolts and nuts per ASTM specifications.
  - 2. 2 1/2" and smaller:
    - a. Bronze, non-rising stem, 125 psi wwp.
    - b. Wheel handle and extension rod or 1 1/4" operating nut.
- C. Install complete with valve boxes and covers set flush with proposed finished grade.
  - 1. Coated with coal tar pitch varnish and word "WATER" cast on cover.
- D. 2" and smaller for polyethalene pipe:
  - 1. ANSI/AWWA C800.
  - 2. Brass construction.
- E. Deep box type yard hydrants: Cast brass non-freeze with 3/4" inch hose connection, vacuum breaker and a bleed-off connection on valve body to drain the casing, for 5'-0" bury. At least six (6) cubic feet of crushed stone (French drain) shall be provided at the drip valve.



- F. As an option all gate valves shall be iron body, bronze mounted, double disc, parallel seat, mechanical joint, with operating nut. Valves shall be open left.
- G. All valves shall be installed complete with valve boxes and valve plate covers. All of the foregoing shall be included in the price of valves. Valve boxes shall be set so the tops are flush with proposed finished grade. They shall be reset if required to meet finished paving or grade.
- H. All valve boxes for the fire service above coated with coal tar pitch varnish and word "WATER" cast on cover.

## 2.05 GENERAL VALVE REQUIREMENTS

- A. Asbestos packing and gaskets are prohibited.
- B. Bronze valves shall be made with dezincification resistant materials. Bronze valves made with copper alloy (brass) containing more than 15 percent zinc shall not be permitted.
- C. Valves in insulated piping shall have 2 inch stem extensions and extended handles of non-thermal conductive material that allows operating the valve without breaking the vapor seal or disturbing the insulation. Memory stops shall be fully adjustable after insulation is applied.
- D. Exposed Valves over 2-1/2 inches installed at an elevation over 12 feet shall have a chain-wheel attachment to valve hand-wheel, stem, or other actuator.
- E. Ball valves, pressure regulating valves, gate valves, globe valves, and plug valves used to supply potable water shall meet the requirements of NSF 61.
- F. Shut-off:
  - 1. Cold, Hot and Re-circulating Hot Water:
    - a. 2 inches and smaller: Ball, MSS SP-72, SP-110, Ball valve shall be full port three piece or two piece with a union design with adjustable stem package. Threaded stem designs are not allowed. The ball valve shall have a SWP rating of 150 psig and a CWP rating 600 psig. The body material shall be Bronze ASTM B584, Alloy C844. The ends shall be solder,
    - b. Less than 4 inches: Butterfly shall have an iron body with EPDM seal and aluminum bronze disc. The butterfly valve shall meet MSS SP-67, type I standard. The butterfly valve shall have a SWP rating of 200 psig. The valve design shall be lug type suitable for bidirectional dead-end service at rated pressure. The body material shall meet ASTM A 536, ductile iron.



- c. 4 inches and larger:
- 1) Class 125, OS&Y, Cast Iron Gate Valve. The gate valve shall meet MSS-SP-70 type I standard. The gate valve shall have a CWP rating of 200 psig. The valve materials shall meet ASTM A 126, grey iron with bolted bonnet, flanged ends, bronze trim, and solid wedge disc. The gate valve shall be gear operated for sizes under 8 inches and crank operated for sizes 8 inches and above
  - 2) Single flange, ductile iron butterfly valves: The single flanged butterfly valve shall meet the MSS SP-67 standard. The butterfly valve shall have a CWP rating of 200 psig. The butterfly valve shall be lug type, suitable for bidirectional dead-end service at rated pressure without use of downstream flange. The body material shall comply with ASTM A536 ductile iron. The seat shall be EPDM with stainless steel disc and stem.
  - 3) Grooved end, ductile iron butterfly valves. The grooved butterfly valve shall meet the MSS SP-67 standard. The grooved butterfly valve shall have a CWP rating of 200 psig. The valve materials shall be polyamide coated ductile iron conforming to ASTM A536 with two piece stainless steel stem, EPDM encapsulated ductile iron disc, and EPDM seal. The butterfly valve shall be gear operated.
2. Reagent Grade Water: Valves for reagent grade, reverse osmosis, or deionized water service shall be ball type of same material as used for pipe.

G. Balancing:

1. Hot Water Re-circulating, 3 inches and smaller manual balancing valve shall be of bronze body, brass ball construction with glass and carbon filled TFE seat rings and designed for positive shutoff. The manual balancing valve shall have differential pressure read-out ports across the valve seat area. The read out ports shall be fitting with internal EPT inserts and check valves. The valve body shall have 1/4" NPT tapped drain and purge port. The valves shall have memory stops that allow the valve to close for service and then reopened to set point without disturbing the balance position. All valves shall have calibrated nameplates to assure specific valve settings.
2. Larger than 3 inches: Manual balancing valves shall be of heavy duty cast iron flanged construction with 125 psi flange connections. The flanged manual balancing valves shall have either a brass ball with glass and carbon filled TFE seal rings or fitted with a bronze seat, replaceable bronze disc with EPDM seal insert and stainless steel stem. The design pressure shall be 175 at 250 deg F.





H. Check:

1. Check valves less than 3 inches and smaller) shall be class 125, bronze swing check valves with non metallic Buna-N disc. The check valve shall meet MSS SP-80 Type 4 standard. The check valve shall have a CWP rating of 200 psig. The check valve shall have a Y pattern horizontal body design with bronze body material conforming to ASTM B 62, solder joints, and PTFE or TFE disc.
2. Larger than 4 inches and larger:
  - a. Check valves shall be class 125, iron swing check valve with lever and weight closure control. The check valve shall meet MSS SP-71 Type I standard. The check valve shall have a CWP rating of 200 psig. The check valve shall have a clear or full waterway body design with gray iron body material conforming to ASTM A 126, bolted bonnet, flanged ends, bronze trim.
  - b. All check valves on the discharge side of submersible sump sumps shall have factory installed exterior level and weight with sufficient weight to prevent the check valve from hammering against the seat when the sump pump stops.

I. Globe:

1. 3 inches or smaller: Class 150, bronze globe valve with non metallic disc. The globe valve shall meet MSS SP-80, Type 2 standard. The globe valve shall have a CWP rating of 300 psig. The valve material shall be bronze with integral seal and union ring bonnet conforming to ASTM B 62 with solder ends, copper-silicon bronze stem, TPFPE or TFE disc, malleable iron hand wheel.
2. Larger than 3 inches: Similar to above, except with cast iron body and bronze trim, class 125, iron globe valve. The globe valve shall meet MSS SP-85, Type 1 standard. The globe valve shall have a CWP rating of 200 psig. The valve material shall be gray iron with bolted bonnet conforming to ASTM A 126 with flanged ends, bronze trim, malleable iron handwheel.

2.06 BACKFLOW PREVENTERS

- A. A backflow prevention assembly shall be installed at any point in the plumbing system where the potable water supply comes in contact with a potential source of contamination. The backflow prevention assembly shall be ASSE 1013 listed and certified.
- B. UL listed for sized 2 1/2" and larger. AWWA compliant.



- C. Bronze body for 3/4" and 1" size. IBBM for 2 1/2" and larger.
- D. Working pressure and temperature rating: 175 psi and temperature of 140 °F. Unit shall be shipped completely assembled and all valves, check valves, nipples and other fittings shall conform to the piping material in which they are installed.
- E. Reduced pressure backflow preventers shall be installed in the following applications.
  - 1. Atmospheric Vacuum Breaker: ASSE 1001
    - a. Hose bibs and sinks w/threaded outlets.
    - b. Disposers.
    - c. All kitchen equipment, if not protected by air gap.
- F. The atmospheric vacuum breaker shall be ASSE listed 1001. The main body shall be either cast bronze. All internal polymers shall be NSF listed. The seat disc elastomer shall be silicone. The device shall be accessible for maintenance without removing the device from the service line. The installation shall not be in a concealed or inaccessible location or where the venting of water from the device during normal operation is deemed objectionable.

#### 2.07 REDUCED BACKFLOW PREVENTOR

- A. The reduced pressure principle backflow prevention assembly shall be ASSE listed 1013 with full port OS&Y gate valves and an integral relief monitor switch. The main body and access cover shall be epoxy coated duct iron conforming to ASTM A536 grade 4. The seat ring and check valve shall be Noryl (NSF listed). The stem shall be stainless steel conforming to ASTM A276. The seat disc elastomer shall be EPDM. The checks and the relief valve shall be accessible for maintenance without removing the device from the line. An epoxy coated wye type strainer with flanged connections shall be installed on the inlet.

#### 2.08 DOUBLE DETECTOR CHECK ASSEMBLY

- A. The double check detector backflow prevention assembly shall be ASSE listed 1048 and supply with full port OS&Y gate valves. The main body and access cover shall be epoxy coated ductile iron conforming to ASTM A536 grade. The seat ring and check valve shall be Noryl (NSF listed). The stem shall be stainless steel conforming to ASTM A 276. The seat disc elastomers shall be EPDM. The first and second check valve shall be accessible for maintenance without removing the device from the line.
- B. UL listed, FM approved. AWWA standard C510-92 compliant.
- C. 175 psi: wwp, epoxy coated cast iron flanged body with bronze seats.



- D. UL/FM approved OS and Y, ISSB, flanged gate valves.

#### 2.09 THERMOSTATIC MIXING VALVE

- A. Self-actuated, self-sensing, three-way type, union ends, manually adjustable, built-in strainer. ASSE 1017 compliant.
- B. Bronze body, 200 p.s.i. working pressure, nickel plated piston, copper actuator bulb and capillary.
- C. Capacity – 25 GPM, pressure drop 2 p.s.i., temperature range – 100 degrees F. to 200 degrees F., set point – 120 degrees F.
- D. Point of use: ASSE 1016 compliant, brass body, integral check valves, adjustment cap.

#### 2.10 RELIEF VALVES

- A. Provide adjustable bronze spring and diaphragm combination pressure and temperature type relief valves with test level and automatically resetting type thermostatic element. Pipe drain to spill over mop receptor floor drain, janitor sink, or to other safe location.
- B. Relief valves shall be ASME rated.

### **PART 3 – EXECUTION**

#### 3.01 INSTALLATION REQUIREMENTS

- A. The entire plumbing and fire protection systems shall be supplied with valves so located, arranged and operated as to give a complete regulating control to all fixtures and apparatus.
- B. Shut-off valves shall be provided on all risers, branch lines and at each piece of equipment whether shown on drawings or not. Install valves with unions, Victaulic couplings, or flanges at each piece of equipment arranged to allow service, maintenance, and equipment removal without system shutdown.
- C. Install check and globe valves on downstream side of the shutoff valve on hot water circulating riser and branch lines. Check valves shall be installed for proper direction of flow and Swing Check Valves shall be installed in horizontal position with hinge pin level.
  - 1. Swing Check Valves: Install in horizontal position with hinge pin horizontally perpendicular to centerline of pipe.



2. Wafer Check Valves: Install between 2 flanges in horizontal or vertical position.
  3. Horizontal Lift Check Valve: Install in horizontal piping line with stem vertically upward.
  4. Vertical Lift Check Valve: Install in vertical piping line with upward flow with stem vertically upward.
  5. Grooved End Spring-Assisted Check Valve: Install in vertical or horizontal piping line with Victaulic couplings.
  6. Air Compressor Lift Check Valve: Install in air compressor discharge line.
  7. Spring Loaded Horizontal Lift Check Valve: Install in horizontal piping line with stem vertically upward.
- D. Valves shall be located for easy access and shall be provide with separate support. Valves shall be accessible with access doors when installed inside partitions or above hard ceilings.
- E. Valves shall be installed in horizontal piping with stem at or above center of pipe. Install valves with stems pointed up, in vertical position where possible, but in no case with stems pointed downward or horizontal plane unless unavoidable. Install valve drains with hose-end adapter for each valve that must be installed with stem below horizontal plane.
- F. Valves shall be installed in a position to allow full stem movement.
- G. Valves, where exposed and used in connection with finished piping, shall be same finish as the pipe.
- H. Provide capped drain valves at the heel of each plumbing water riser and at low points of the horizontal mains.
- I. Provide chain operators on all valves 4" and larger located 12'-0" and higher above floor.
- J. Provide shut-off valves and check valves on each pump discharge line and shut-off valve only on each pump suction line.
- K. Install valves where required for proper operation of piping and equipment, including valves in branch lines necessary to isolate sections of piping.
- L. Where insulation is indicated, install extended-stem valves, arranged in proper manner to receive insulation.



- M. Install valves with bodies of metal other than cast iron where thermal or mechanical shock is indicated or can be expected to occur.
- N. Do not install bronze valves and valve components in direct contact with steel, unless bronze and steel are separated by dielectric insulator. Install bronze valves in steam and condensate service and in other services where corrosion is indicated or can be expected to occur.
- O. Except as otherwise indicated, install gate, ball, globe, and butterfly valves to comply with ANSI B31.1. Where throttling is indicated or recognized as principal reason for valve, install globe or butterfly valves.
- P. Select and install valves with renewable seats, except where otherwise indicated.
- Q. Valve packing shall be adjusted or replaced after piping systems have been tested and put into service but before final adjusting and balancing. Replace valves shall be replaced if persistent leaking occurs. Do not attempt to repair defective valves; replace with new valves.
- R. Provide drains at low points of all liquid piping systems including each riser. Locate drain valves in Mechanical Equipment Rooms not higher than 6' above floor and pipe to nearest floor drain. Provide capped drain cocks with threaded ends for hose connections at all other drain points. Provide one 100' length of heavy-duty 1" hose.
- S. Provide all valves 6" and larger with a rating of over 150 lbs. with a 1" bypass valve of same pressure rating as the bypassed valve.
- T. Provide renewable bronze seat rings and bronze spindles for all cast iron body valves.
- U. If globe valves are not available in the sizes required for installation in the discharge lines from the large pumps, install valves of the lubricated tapered plug type.
- V. Lubricate tapered plug cocks with the manufacturer's proper lubricant for water service before shipment to the job site. Furnish four (4) hand wrenches for each size valve, where gear operators are not required.
- W. Safety valve discharges shall be piped and extended to drains. From the drain and the elbow provide a common 3/4" drain line extended to discharge down 6" above the nearest floor drain.

**END OF SECTION 220523**



NEW YORK CITY DEPARTMENT OF  
DESIGN + CONSTRUCTION

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Project Title: Center for the Women of New York  
Fort Totten, Bayside, NY 11359

GENERAL DUTY VALVES  
FOR PLUMBING DESIGN  
220523 - 12



## SECTION 220711

### PLUMBING INSULATION

#### PART 1 – GENERAL

##### 1.01 GENERAL REQUIREMENTS

- 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. Work of this specification as shown or specified should be in accordance with the requirements of the Contract Documents.

##### 1.02 WORK INCLUDED

- A. Work of this Section includes all labor, materials, equipment and services necessary to provide Insulation on Plumbing Piping and Equipment as shown on the drawings and as specified herein, including but not limited to the following:
  - 1. Insulation, jacketing and adhesives for plumbing piping.
  - 2. Insulation, jacketing and adhesives for plumbing equipment.

##### 1.03 RELATED WORK

- A. Water Distribution Piping – Section 221100.
- B. Sanitary, Waste, and Storm Drainage – Section 221300.

##### 1.04 QUALITY ASSURANCE

- A. Federal Specifications – F.S.
- B. Underwriters Laboratories – U.L.

##### 1.05 SUBMITTALS

- A. Shop Drawings:
  - 1. Insulation Materials.



2. Jackets.
3. Adhesives.

## PART 2 – PRODUCTS

### 2.01 INSULATING MATERIALS

- A. All insulation shall have composite (insulation, jacket facing and adhesive used to adhere jacket or facing to the insulation) fire and smoke hazard ratings as tested by Procedure ASTM E-84, NFPA 255 and UL 73, not exceeding flame spread of 25, fuel contributed of 50, and smoke developed of 50. Accessories such as adhesives, mastics, cements, tapes and cloths for fittings shall have component ratings as listed above. Insulation shall be glass fiber with a maximum K factor of 0.23 at 75 degrees F. mean temperature. Density shall not be less than 3 lbs. per cu. ft.
- B. Insulation thickness shall conform to application schedule specified herein for types and thickness.
- C. Pipes subject to freezing: Cover all piping subject to freezing with an additional layer of 2" glass fiber insulation of the same finish as specified for the particular service when not subject to freezing, but not less than 3" total thickness.
- D. The materials as specified below have been selected from Owens-Corning Fiberglass Corp. and are representative of the quality, design and finish desired. Insulation as manufactured by other manufacturers may be submitted for approval, provided the products meet fully in all respects (such as density, moisture absorption, alkalinity, thermal-conductivity, jacket, etc.) to the materials as delineated below.
- E. Fiberglass Pipe Insulation: FS HH-1-558B (Amend. 3), Form D, Type III, Class as indicated. Provide Class 12 for hot and cold plumbing piping.
- F. Fiberglass Pipe Fitting Insulation: FS HH-I-558, Form E, Class as indicated. Provide Class 16 for use with Class 12 pipe insulation, where temperature does not exceed 450 degrees F.
- G. Flexible Unicellular Pipe Insulation: FS HH-I-523, Class T.
- H. Calcium Silicate Pipe Insulation: FS HH-I-523, Type II, except type I where needed, factory applied jacket Class B.
- I. Vapor Barrier Materials: FS HH-B-100B, Type I, paper-backed aluminum foil, except as otherwise indicated, strength and permeability rating equivalent to adjoining pipe insulation jacketing.
- J. Bends shall be 0.016 inch thick, 1/2" aluminum spaced 18" on center





- K. Wires shall be 20 gauge galvanized annealed steel, sealer shall be layer of J-M duramesh 207 or equal.
- L. Adhesives and Protection Finish shall be Benjamin Foster 30-36, Insul-Coustic (I-C), Hilti, or approved equal.
- M. Jacketing Material for Equipment Insulation: Provide pre-sized glass cloth or canvas material, not less than 7.8 ounces per square yard.
- N. Fitting and Valves: 20 mil. P.V.C. covers over fiberglass insulation.
- O. Weatherproofing finishes for outdoor insulation (Glycol).
  - 1. Outside Piping
    - a. Finish with a 0.16" thick aluminum jacket which has a factory applied moisture barrier. For all applications where it is available, the jacketing shall be factory attached to the insulation and installed per manufacturers' recommendation.
    - b. Where field applied jacketing must be used, it shall be applied with 2" overlap facing down from the weather and shall be secured with an aluminum band (1/2" x 0.020") and seals applied on 12" center with bands applied directly over butt overlaps.
    - c. Fittings and valves shall be insulated and finished with mitered sections of the insulation with factory attached aluminum jackets installed per manufacturers' recommendation.

## 2.02 RELATED MATERIAL AND REQUIREMENTS

- A. At pipe supports Insul-Shield pipe saddles and matching hanger shall be used. Joints of insulation abutting Insul-Shielding pipe saddles shall be butted with IC-405, and the joints firmly pressed together.
- B. All concealed and exposed piping shall be provided with factory ASJ secured in place with vapor barrier adhesive IC-225. Provide 1/2" aluminum bands spaced 18" on centers.

## 2.03 INSULATION REQUIREMENTS

- A. Cold Water Piping
  - 1. Cold Water – 1 inch and smaller – 1/2" insulation, A.S. jacket.  
Cold Water – 1- 1/4" to 2" – 3/4" insulation, A.S. jacket.  
Cold Water – 2- 1/2" and larger – 1" insulation, A.S. jacket.



2. Storm drainage piping and drain body – minimum 1/2” insulation, A.S. jacket.
3. Frostproofed Piping – 3” insulation, dual temperature fire retardant jacket.

B. Hot Water Piping

1. Hot Water Supply – 1/2” to 1- 1/4” I.D. – 3/4” insulation, A.S. jacket.
2. Hot Water Supply – 1- 1/4” and larger – 1” insulation.
3. Hot Water Circulating – all sizes – 1” insulation, A.S. jacket.

2.04 OPTION

A. Water Piping

1. 1” insulation, A.S. jacket.
2. Storm drainage piping and roof drain body: same as for water piping.
3. Frostproofed Piping 3” insulation, dual temperature fire retardant jacket.
4. Except as noted insulate all exposed and concealed vertical and horizontal domestic water piping, and all exposed and concealed horizontal storm drainage piping.

B. Miscellaneous Equipment

1. Insulate water meter with 4 pound density 1” thick vapor barrier glass insulation blanket, fitted and contour to shape and secured in place with bends 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.
2. Hydro-pneumatic tank: 1” thick glass fiber vapor seal board, type 705 faced with FRK jacket 4lb. density, with 1/2” thick finish over vaporseal mastic and finished cement copper-clad hexagonal wire. Domestic hot water generators shall be insulated with Weben Jarco or approved equal “Zip-A-Therm” jacket. Jacket shall have an R-11 thermal rating and conform to ASHRAE standard 90-75. Jacket shall limit heat loss to 13.61 BTU per square foot of tank surface at 130 degrees stored water temperature and 63 degrees F. ambient air temperature.
3. Insulate domestic hot water storage tanks with 4.2 pound density 2” thick vapor barrier glass insulation blanket, fitted and contour to shape and secured in place with bends of 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.



- C. Except as noted insulate all exposed and concealed vertical and horizontal domestic water piping, and all exposed and concealed horizontal storm drainage piping.

### **PART 3 – EXECUTION**

#### **3.01 GENERAL**

- A. Maintain integrity of vapor-barrier jackets on pipe insulation, and protect to prevent puncture or other damage. Staples shall not be used on vapor barrier.
- B. Cover valves, flanges, fittings and similar items in each piping system with equivalent thickness and composition of insulation as applied to adjoining pipe run. Install factory, precut or job fabricated units (at Installer's option) except where a specific form or type is indicated.
- C. Extend piping insulation without interruption through walls, floors and similar piping penetrations, except where otherwise indicated.
- D. Do not apply insulation to hot equipment.
- E. Apply insulation using the staggered joint method for both single and double layer construction, where feasible. Apply each layer of insulation separately.
- F. Coat insulated surfaces of equipment with layer of insulating cement, troweled in a workmanlike manner, leaving a smooth continuous surface. Fill in scored block, seams, chopped edges and depressions, and cover wire netting and joints with cement of sufficient thickness to remove surface irregularities.
- G. Cover insulated equipment surface with jacketing neatly fitted and firmly secured. Lap seams at least two inches. Apply cover vapor barrier where applicable.
- H. All horizontal storm drainage piping under roofs, exposed and above hung ceiling, and roof drain bodies shall be insulated as specified for cold water piping, but nested larger diameter covering over hubs and drain bodies.

#### **3.02 INSTALLATION REQUIREMENTS**

- A. Install insulation products in accordance with the manufacturer's written instructions, and in accordance with recognized industry practices to ensure that the insulation serves its intended purpose.
- B. Install insulation on pipe systems subsequent to testing and acceptance of tests.
- C. Install insulation materials with smooth and even surfaces. Insulate each continuous run of piping with full-length units of insulation, with a single cut piece to complete the run. Do not cut pieces of scraps abutting each other.



- D. Clean and dry pipe surfaces prior to insulating. Butt insulation joints firmly together to ensure a complete and tight fit over surfaces to be covered.
- E. The Contractor shall take every precaution necessary to insure that the covering material is in satisfactory condition to receive painting.
- F. Penetration of walls and floors by piping connection to rotating equipment shall be provided with a fiberglass sleeve, the full depth of pipe penetration.
- G. In all cases where new piping connects to existing piping that is insulated, the existing insulation that is removed to make the new connection shall be replaced with new insulation as hereinafter specified.
- H. Do not insulate hand holes, cleanouts, ASME stamp, and manufacturer's nameplate. Provide neatly finished beveled edge at interruptions of insulation.
- I. Replace damaged insulation, which cannot be repaired satisfactorily, including units with vapor barrier damage and moisture-saturated units.
- J. The installer of the piping insulation shall advise this Contractor of required protection for the insulation work during the remainder of the construction period to avoid damage and deterioration.

**END OF SECTION 220711**



## SECTION 221100

### WATER DISTRIBUTION PIPING

#### PART 1 – GENERAL

##### 1.01 GENERAL REQUIREMENTS

- 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. Work of this Specification as shown or specified should be in accordance with the requirements of the Contract Documents.

##### 1.02 WORK INCLUDED

- A. Work of this Section includes all labor, materials, equipment and services necessary to complete the installation of pipe, tube and fittings as shown on the drawings and as shown on the drawings and as specified herein, including but not limited to the following:
  - 1. Domestic water systems, including piping, equipment and all necessary accessories as designated in this section.

##### 1.03 RELATED WORK

- A. Common Work Results for Plumbing – Section 220511.
- B. Plumbing Tests – Section 220513
- C. Motors and Motor Controllers – Section 220514
- C. General Duty Valves for Plumbing – Section 220523
- D. Plumbing Insulation – Section 220711
- E. Plumbing Equipment and Accessories – Section 223000



#### 1.04 QUALITY ASSURANCE

- A. A.N.S.I. American National Standards Institute
  - A.S.A. American Standards Association
  - A.S.T.M. American Society of Testing and Materials
  - A.W.S. American Welding Society
  - A.W.W.A. American Water Works Association
  - C.A.B.R.A. Copper and Brass Research Association
  - C.I.S.P.I. Cast Iron Soil Pipe Institute
  - F.S. Federal Specifications – U.S. Dept. of Commerce
  - F.M. Factory Manual
  - I.R.I. Industrial Risk Insurers
  - N.B.S. National Bureau of Standards
  - N.F.P.A. National Fire Protection Associations
  - O.S.H.A. Occupational Safety and Health Act
  - U.L. Underwriters Laboratories
- B. No welder shall be employed who has not been fully qualified and certified by an approved, nationally certified, welding bureau or similar recognized testing agency.
  - C. The competent and experienced welders who have qualified shall be retained at the job at all times when welding is done. Once qualified, they shall not be removed from the job. Each welder shall be in possession of a stamp to identify work performed by him.
  - D. Welding material and labor shall be in accordance with the welding procedures of ANSI piping codes. Mark of welder shall be stamped on each welded joint of pipe.

#### 1.05 SUBMITTALS

- A. Shop drawings indicating pipe layout (3/8" scale), sizes, types of materials, details, attachment and installation. Coordinate the work with other trades doing sheet metal work, electrical work and general construction.
- B. Product Data: Manufacturers' printed data, catalog cuts, recommended connections and installation methods. Submit for valves, fittings, strainers, supports, sleeves, anchors and guides.
- C. Samples, when requested.
- D. Manufacturer's test data.
- E. Reports of pipe field hydrostatic test.

#### 1.06 DELIVERY, STORAGE & HANDLING

- A. Deliver materials properly identified as to type, size, manufacturer's name, specification code, etc., and undamaged.



- B. Do not store exposed to weather; cover with suitable type material to protect from damage.
- C. Properly protect all piping so as to prevent damage to the pipe or the introduction of foreign material into the pipe. For the purpose of protecting pipe from pre-installation contamination, all piping shall be shipped to job site with suitable caps, sheet metal covers or plugs. Pipe caps, etc. shall not be removed until just before installation.
- D. Cap or plug all openings in pipe and pipe fittings during installation.
- E. During loading, transporting and unloading, use care to prevent injury to pipes and pipe fittings. Do not drop pipe or fittings. Examine all pipe and fittings before laying. Do not install any piece that is found to be defective.
- F. Store and protect all materials from injury prior to installation. Do not store any materials directly on the ground or floor. Keep materials as clean and dry as possible and free from damage or deteriorating elements.
- G. Remove and replace with new pipe any defective pipe and pipe fittings discovered after installation without additional expense to the Owner.

## PART 2 – PRODUCTS

### 2.01 MANUFACTURERS

- A. Pipe:
  - 1. Ductile Iron: U.S. Pipe and Foundry, Clow Corporation.
  - 2. Copper: Revere Copper Products, NIBCO.
  - 3. Fittings for Brass Pipe and Copper Tubing: Flagg, Nibco.
  - 4. Stainless Steel: Babcock & Wilcox, Carpenter Technology, Republic Steel.
  - 5. Steel: Youngstown, Republic, U.S. Steel.
  - 6. Flexible connectors: Flexonics, Resistoflex, Flexico.
  - 7. Mechanical Fittings: Victaulic, Grinnell, MG Piping Products.
  - 8. Porous Concrete: Walker Poroswall.
  - 9. Concrete: International Pipe & Ceramic Corp., Interpace Corp.



## 2.02 UNDERGROUND (INSIDE AND OUTSIDE THE BUILDING) PIPE AND FITTINGS

### A. Domestic Water and Fire Protection Systems:

1. Under 3" shall be Type "K" copper tubing, seamless, annealed, ASTM B-88 with wrought copper or cast brass brazed fittings, minimum 125 psi WWP. Brazing joints shall be as specified for domestic water piping. Pipe and fittings: Shall be mill wrapped or asphaltum coated.
2. 3" and larger
  - a. Ductile iron pipe with mechanical joints conforming to A.S.T.M. A21.51 and A21.52 (AWWA/C151-65 60-42-10) 125 PSIG WSP, and shall be approved by the local Water Company. Provide flanged and anchored connection to interior piping.
  - b. Each pipe shall have cast on it or stamped on it by means of a hand dye stamp, the maker's name or mark, and the year in which the pipe is cast. The weight and thickness class shall be painted on each pipe.
  - c. Lined with cement mortar in accordance with the A.S.T.M. A21.4-1964. Coated outside with an approved bituminous material. The coating of the interior shall conform with the requirements of A.S.T.M. A21.4-1964. All fittings shall be cement-lined mechanical joint type, Class 250, short pattern ASA 21.10-1964 AWAC-110-64. Fittings: Lined and coated as specified for cast iron pipe above. Assembly of the mechanical joint pipe and fitting shall be completed with a torque switch.
  - d. PVC pipe, class 150, bell ends with gasket, AWWA C900—to be used only where approved by the local jurisdiction.
    - 1) Fittings: AWWA C907, class 150, gasketed.
  - e. Flexible Polyethelene tubing, NSF approved, AWWA C-901, 200 psi rated, potable water grade—to be used only where approved by the local jurisdiction.
    - 1) Fittings: Compression type

### B. Flexible Expansion Joint:

1. Ductile iron with ball joints rated for 250 psi (1725 kPa) working pressure conforming to ANSI/AWWA C153/A21.53, capable of deflecting a minimum of 20 degrees in each direction and expanding simultaneously to the amount shown on the drawings. Flexible expansion joint size shall match the pipe size it is





connected to and shall have the expansion capability designed as an integral part of the ductile iron ball castings. Pressure containing parts shall be lined with a minimum of 15 mils of fusion bonded epoxy conforming to the applicable requirements of ANSI/AWWA C213 and shall be factory tested with a 1500 volt spark test. Flexible expansion joint shall have flanged connections conforming to ANSI/AWWA C110. Bolts and nuts shall be 316 stainless steel and gaskets shall be neoprene. The flexible expansion fitting shall not expand or exert an axial thrust under internal water pressure. Provide piping joint restraints at each mechanical joint end connection and piping restraints at the penetration of the building wall. The restraints shall be provided to address the developed trust at the change of piping direction.

## 2.03 INTERIOR PIPE AND FITTINGS

### A. Domestic Water System:

1. Domestic cold and hot water piping: Seamless drawn or extruded copper tubing type "L" hard temper ASTM B-88. Fittings: Wrought copper or cast bronze, brazing or grooved type. Joints shall be:
  - a. Brazed: Made with a brazing alloy (95/5) consisting of copper, silver and phosphorus, and shall conform to Handy Harmon "Silphos" fluxless brazing (1,300 degrees F.) or equal. Brazing material shall meet ANSI/AWS A5.8 Specifications.
  - b. Grooved: Couplings shall be angle pattern bolt pad type, coated with copper colored alkyd enamel. Fittings and couplings shall be manufactured to copper tube dimensions. Flaring of pipe ends to IPS dimensions is not allowed. Gaskets shall be UL classified in accordance with ASME/NSF 61 for hot and cold potable water systems.

- OR -

2. Above ground domestic water piping: Seamless drawn or extruded copper tubing type "L" hard temper ASTM B 88. Fittings 1 ½" and smaller: Wrought copper or cast bronze, brazing type. Joints shall be made with a brazing alloy (95/5) consisting of copper, silver and phosphorus, and shall conform to Handy Harmon "Silphos" fluxless brazing (1,300 degrees F.) or equal. Brazing material shall meet ANSI/AWS A5.8 Specifications. Fittings 2" and larger: wrought or cast Victaulic type CTS grooved cooper fittings. Couplings: Victaulic style 606 ductile iron couplings, 300psi wwp.

- B. Subject to local approval, the option is permitted to use roll grooved or cut grooved end pipe with mechanical type joints for the fire protection service and the galvanized steel, and the hard drawn copper tubing water pipe. State materials that are to be provided.



1. For galvanized pipe use galvanized couplings.
  2. For copper tubing use copper colored enamel coated ductile iron couplings.
- C. All screwed couplings and shoulder nipples not exceeding 5" in length shall be of the same material as the pipe but of dimensions conforming to Schedule 80.
- D. All fittings used at expansion loops or bends shall be of 250 lb. WSP Class.
- E. Welding fittings shall be of the same material and schedule as the pipe to which they are welded. Welding elbows shall be long radius pattern unless clearance conditions necessitate the use of standard radius pattern. Welded tees shall be used where difference between main and branch are two (2) standard pipe sizes or less. Branch connections shall be reinforced with Weldolets by Bonney Forge and Tool Works or welding saddles by Tube-Turn, Walworth or approved equal. Welding fittings shall be Tube-Turn, Walworth or approved equal.
- F. Unions 2" and smaller shall be screwed unless otherwise noted. Unions 2- 1/2" and larger shall be flanged. If mechanical joint grooved couplings are used, unions are not required. (Couplings shall serve as unions.) Screwed unions on wrought iron and steel pipe, unless otherwise specified, shall be of malleable iron with bronze ground seats suitable for 300 lbs. WSP. Screwed unions on brass pipe shall be brass, ground joint suitable for 300 lbs. WSP. Flanged unions shall be malleable iron, gasket type suitable for 150 lbs. WSP. Unions shall be as manufactured by Crane, Walworth or approved equal.
- G. Flanges shall be of the same weight as the fittings and valves in each service category. Welding neck flanges shall be used with flanged equipment, etc., on welded lines. All flanges shall be drilled in conformance with ANSI B16.5, 125 lb. or 300 lb. standard steel. Welding flanges shall be of steel. Laps shall be machined on front, back and edge and loose flanges have face and bore machined. Screwed flanges shall be faced perpendicular to adjoining pipe.
1. Flange adapters for grooved end steel pipe shall be complete with pressure responsive synthetic rubber gaskets. Flange adapters shall be Class 150, Victaulic Style 741. Flange adapters for use with copper tube shall be Class 150, Victaulic Style 641.
- H. Flange joints shall be faced true, packed and made up perfectly square and tight. Each flange joint shall be provided with best grade steel bolts with square forged heads and with cold-pressed semi-finished hexagon nuts. Bolts and nuts shall be dripped in a mixture of graphite and oil, just before installation. All threads shall be U.S. Standard Gaskets shall be one-piece ring type 1/16" thick full face, suitable for temperature, pressure and service of systems.



- I. Dielectric Fitting: Dissimilar connections shall be made with an insulating dielectric material such as Teflon or neoprene between copper, brass or bronze and black steel pipe.
- J. Fittings:
1. Cast iron threaded drainage: Recessed pattern, ANSI B-16.12.
  2. Malleable iron: Threaded and banded, standard weight except as noted, ANSI B-16.3.
  3. Cast iron threaded: Standard weight, except as noted, ANSI B-16.4.
  4. Cast iron flanged fittings and flanges: Standard weight except as noted, ANSI B-16.1.
  5. Ductile iron grooved: ASTM A-536.
  6. Steel grooved: Forged steel or fabricated steel ASTM A-53.
  7. Steel welding: Standard weight seamless steel, ANSI B-16.9 and ASTM A-234.
  8. Steel flanges: ANSI B-16.5.
    - a. ASTM A-181 Grade I up to 300 psi.
    - b. ASTM A-105 Grade I, 400 psi and above.
  9. Grooved end fittings for copper tubing: Wrought copper conforming to ASTM B-75, B-152, and ANSI B16.22 with copper tubing sized grooved ends designed to accept Victaulic couplings.
  10. Flange adapters for grooved end pipe: Ductile iron ASTM A-536, with synthetic rubber pressure responsive gasket.
  11. Couplings for grooved end pipe:
    - a. For steel pipe: ASTM A-536 ductile iron housings, with synthetic rubber pressure responsive gasket. (Rigid type with angle-pattern bolt pads, or flexible type where required.)
    - b. For copper tubing: ASTM A-536 ductile iron, with synthetic rubber pressure responsive gasket, and angle pattern bolt pads. Coupling housings coated with copper colored alkyd enamel. Couplings shall be copper tubing sized.
- K. Unions:



1. Ground joint type.
2. Brass for brass pipe and copper tubing.
3. Galvanized malleable iron with brass seats for iron pipe.
4. If mechanical joint grooved couplings are used, unions are not required. (Couplings shall serve as unions.)

L. Press Fittings (Copper)

1. Contractor at his option may provide press fittings in lieu of soldered or brazed fittings and joints for the following systems:
  - a. Domestic cold water
  - b. Domestic hot water
2. Press fittings for copper shall only be used for piping up to 4 inch and for piping rating no more than 250 degrees and 200 psig.
3. Press Fittings: Bronze or copper shall conform to the material requirements of ASME B16.18 or ASME B16.22, and the performance requirements of IAPMO PS117, and ICC LC1002. Press fittings ½-inch thru 4-inch for use with ASTM B88 copper tube type K, L, or M and ½-inch up to include 1-1/4-inch annealed copper tube. Press fittings shall have an EPDM sealing element and Smart Connect (SC) feature. 2-1/2-inch thru 4-inch shall have a 420 stainless steel grip ring, PBT separator ring, EPDM sealing element and Smart Connect (SC) feature. Sealing elements shall be verified for the intended use.
4. Press fittings with EPDM sealing element shall conform to NSF 61-pw-G when installed in a potable water system.

2.04 PIPE EXPANSION COMPENSATORS

- A. Any breaks or damage to the piping system or to the Work of other Sections within the period of the guarantee due to improper provision for expansion and contraction must be replaced at this Contractor's expense.
- B. This Contractor is to provide for expansion of pipes by providing expansion compensators and/or expansion loops and shall provide anchors at pump discharge and suction lines. All expansion loops shall be pre-stressed.
- C. At connections of branches to water mains, risers and at connections to heaters, coolers and other equipment, and at risers, provide sufficient number of elbow swings to allow for proper expansion and contraction of piping.



- D. Provide in hot water recirculation pipe lines (except at building expansion joints) 3 inches and smaller and for system pressure less than 51 psi, expansion compensators having two-ply phosphor bronze elbows and brass shrouds and end fittings. All internal parts shall be of non-ferrous metals. Compensators shall have integral guides extending the full length of the bellows travel. Compensators shall have external positive anti-torque devices to prevent twist. All compensators shall be listed under NSF standard 61.
- E. Provide in hot, hot water recirculation piping, except at building expansion joints, etc., pipe lines 4 inches and larger and for system pressures exceeding 50 psi, Flexonics controlled-flexing expansion joints as manufactured by U.O.P. Flexonics Division, Bartlett, Illinois, or approved equal, with plate steel flanges having ANSI drilling, pipe nipple ends beveled for welding, forged steel ANSI flanges to suit the installation. The bellows shall be hydraulically formed from a stainless steel reinforcing neck ring and control rings shall be of a design to limit movement of each corrugation, as well as to carry loop stress caused by internal pressures. Where required, the bellows shall be annealed and/or stress relieved. Before assembly, the corrugated bellows shall be pickled to remove all scale formed by annealing and passivated to provide the maximum corrosion resistance. All lines in which expansion joints are installed must be securely anchored and guided in accordance with manufacturer's recommendations.
- F. Expansion joints for grooved end steel pipe:
1. 2" Through 6": Packless, gasketed, slip-type expansion joint with grooved end telescoping body for installation with rigid couplings. Provides axial end movement to 3", designed for water services up to 230°F and working pressure to 350 psi.
  2. ¾" Through 2": Combination of short nipples or flexible couplings joined in tandem for increased expansion. Joint movement and expansion capabilities determined by number of couplings/nipples used in the joint. Pressure rating dependent on size and style of flexible couplings used.
- G. Expansion joints shall be manufactured by ADSCO, Barko, Flexonics, or approved equal.

#### 2.05 DRIP PANS

- A. 18 gauge galvanized sheet steel, reinforced, properly supported watertight with 1- 1/4" drain.
- B. Provide under piping where impossible to route water or drainage piping to avoid passing over or within 5 feet of electrical apparatus and in rooms containing only electrical equipment.
- C. Provide under all ground floor plumbing offsets and where indicated on plans.



- D. Provide under all sanitary piping in commercial kitchen and where indicated on plans.

2.06 GALVANIZING

- A. Hot process inside and outside of pipe with zinc coating, minimum 2 ounces per sq. ft.
  - 1. In accordance with American Hot-Dip Galvanizers Associations.

2.07 CHROMIUM PLATING

- A. Use full iron pipe size chrome plated brass piping for exposed water piping connecting fixtures.
- B. Clean material and polish before plating.
- C. Plating: Heavy, evenly applied, guaranteed not strip or peel.
- D. Brass or Copper Plating: Nickel plated before chromium plating, ASTM B-281, B-456.
- E. Finish: Polished or satin as noted.

2.08 TRAP SEAL PRIMER AND PIPING:

- A. Cast bronze, 1/2" connection, J.R. Smith #2699. Provide at all floor and funnel drains.
- B. Pipe: Copper tube, ASTM B88, type K, hard drawn.
- C. Fittings: Bronze castings conforming to ANSI B16.18 Solder joints.
- D. Solder: ASTM B32 composition Sb5. Provide non-corrosive flux.

2.09 STRAINERS

- A. Provide on high pressure side of pressure reducing valves, on suction side of pumps, on inlet side of indicating and control instruments and equipment subject to sediment damage and where shown on drawings. Strainer element shall be removable without disconnection of piping.
- B. Water: Basket or "Y" type with easily removable cover and brass strainer basket.
- C. Body: Smaller than 3 inches (80 mm), brass or bronze; 3 inches (80 mm) and larger, cast iron or semi-steel.



2.10 DIELECTRIC FITTINGS

- A. Provide dielectric couplings or unions between ferrous and non-ferrous pipe.

2.11 WATER HAMMER ARRESTER:

- A. Closed copper tube chamber with permanently sealed 60 psig (410 KpA) air charge above a Double O-ring piston. Two high heat Buna-N O-rings pressure packed and lubricated with FDA approved silicone compound. All units shall be designed in accordance with ASSE 1010 for sealed wall installations without an access panel. Size and install in accordance with Plumbing and Drainage Institute requirements (PDI-WH 201). Provide water hammer arrestors at:

1. All groups of two or more flush valves.
2. All solenoid valves.
3. All quick opening or closing valves.
4. All medical washing equipment.

2.12. VACUUM BREAKERS

- A. Install with any plumbing fixture or equipment, in each potable water supply outlet that may be submerged, or subject to back-siphonage, backflow, or that cannot be protected by a minimum air gap, or as directed by the local health department. Install in strict accordance with all State and Local authorities having jurisdiction.
- B. Provide approved type vacuum breaker of the following type:
- 1) Air gap -ANSI A112-1.2.
  - 2) Vacuum Breaker -ANSI A112.1.1
- C. Vacuum breaking devices shall be readily accessible, in the same room with the fixture they serve.
- D. Provide vacuum breakers for all serrated tip water outlets, hose and faucets, on piping supplying fixtures and equipment below the overflow level and interconnections with other systems which as make-up water supplies to heating or cooling systems.
- E. Install vacuum breakers on piping to boiler make-up, cooling tower make-up, pump cooling and similar connections subject to back pressure. Vacuum breakers shall be similar and equal to Watts Model No. 9D for 1/2" and 3/4" sizes and Watts Model No. 900 for pipe sizes 1" and larger.



- F. In addition to the vacuum breaker, provide an approved check valve on the supply side of the vacuum breaker.
- G. The following outlets are exempt from the above requirements: hose bibbs for drainage of low points of piping systems, and drains from hot water storage tanks.
- H. Hose connected vacuum breakers must assure against backsiphonage by relieving water under pressure when hose end is closed off. Unit shall be all brass construction, finished to match existing piping with either male or female inlet and hose-end outlet connection.

#### 2.13 HOSE BIBBS

- A. 1/2" chrome-plated angle valve with integral stop, renewable seat, composition washer, metal handle, vacuum breaker and 3/4" hose thread and wall flange on concealed piping.

#### 2.14 WATER METER

- A. AWWA Standard C700-90 approved:
  - 1. Disc type, magnetic drive, with bronze body, threaded ends, bronze operating parts:
    - a. NYC DEP approved water meter.
    - b. Provide with remote reading and billing (ARB) accessories.
  - 2. Disc type, magnetic drive, with bronze maincase, bronze operating parts, flanged ends:
    - a. NYC DEP approved water meter.
    - b. Provide with remote reading and billing accessories.
  - 3. Compound type, cast bronze maincase, bronze operating parts, flanged ends:
    - a. NYC DEP approved water meter.
    - b. Provide with remote reading and billing accessories.
  - 4. Provide with plate strainer.
- B. Plate Strainer: Similar to Neptune
- C. Basket Strainers: Flanged cast-iron body clamped top and removable basket of perforated copper or stainless steel, similar to Bailey type 2.





## 2.15 FLOW CONTROL FITTINGS

- A. Provide flow control fittings as manufactured by the Dole Valve Company or approved equal. Flow control valves are to be installed in accordance with the manufacturer's recommendations and shall be provided for all sinks, lavatories and electric water coolers.
- B. All lavatories: male pipe inlet and 3/8" female pipe outlet for rigid hot and cold supply risers. Flow rate 0.5 gpm.
- C. All sinks including equipment with sinks, mop receptors, service sinks and kitchen sinks, showers: male pipe inlet and 1/2" female pipe outlet for hot and cold supply risers. Flow rates 4 GPM for service sinks and mop receptors 3 GPM for kitchen and casework sinks, 2.5 gpm for showers.
- D. Electric Water Coolers; male pipe inlet and 3/8" female pipe outlet for cold supply riser. Flow rate 0.5 gpm.
- E. All exposed to view flow control fittings shall be chrome plate nickel, or nickel plated.

## 2.16 PRESSURE AND TEMPERATURE GAUGES

- A. Base Names Manufacturer – Trerice
- B. Pressure and temperature gauges shall be located as shown on the drawings and as indicated below:
  - 1. Pressure Gauges:
    - a. High and low pressure side of pressure reducing valve.
    - b. Discharge side of water meter, provide tee and capped valved connection on inlet side.
    - c. Hot water tank.
    - d. Compound gauge at suction side of each pump.
    - e. Install capped tee with needle valve at discharge side of each pump for future pressure gauge.
  - 2. Temperature Gauges:
    - a. Hot water supply and return piping at hot water tank.
    - b. Downstream side of mixing valve to indicate mixed water temperature.



- C. Pressure gauge shall be 4- 1/2" diameter with aluminum case, chrome ring, white background dial with black markings, glass window, micrometer pointer, stainless steel movement, 1/2 % accuracy over full scale range, phosphor bronze bourdon tube, 1/4" N.P.T. brass socket, bottom or back outlet, 0 psi to 200 psi for straight pressure gauge, 30" of vacuum to 300 psi for compound range – Terrice #500X. Gauges to be used on sewage or storm water system shall be Terrice #500X with Terrice #877-2 diaphragm seal. Pressure and compound gauges shall be installed with Terrice #872-2 snubbers and Terrice #735 needle mounted using copper tubing.
- D. Temperature gauge shall be 4- 1/2" diameter with aluminum case, polished chrome ring white background dial with black markings, glass window, red tipped aluminum pointer, 7/16" x 2- 1/2" copper bulb, 1/2" N.P.T. brass union connection, adjustable angle direct mounted or adjustable angle bracket mounted with 5'0" bronze armored copper capillary as required, 30 degrees F. to 240 degrees F. Dial range. Terrice No. V80445 or V80341 as required.
- E. Other acceptable manufacturers – Taylor, Wexler.

#### 2.17 MISCELLANEOUS MATERIALS

- A. Galvanized Sheet Steel: ASTM A525.
- B. Cement: ASTM C-150.
- C. Sand, Stone and Gravel for Concrete: ASTM C-33.
- D. Sand for Mortar and Grout: ASTM C-144.
- E. Reinforcing Rods: ASTM A-615.
- F. Reinforcing Wire Mesh: ASTM A-185.

### **PART 3 – EXECUTION**

#### 3.01 INSTALLATION OF PIPING

- A. Water Service:
  - 1. Arrange with the Water Department and pay for the installation of the connection to the water main approximately as located on the contract drawings. From this connection extend into the building, with curb box, indexed valve box, post indicator valve, etc., as required.
  - 2. Install complete cold and hot water system as indicated on the drawing as required.



B. General:

1. Piping: Installed in neat and workmanlike manner parallel to walls, column center lines but sloped to drain. Work of each trade shall be fully coordinated to provide the design systems without interference between systems. Piping shall be accurately cut, reamed and threaded with sharp dies. Install copper piping in accordance with best practices requiring accurately cut clean joints and soldered in accordance with the recommended practices for the materials and solder employed.
2. Piping shall be installed so as not to interfere with diffusers and electrical lighting outlets which must be accurately centered and located. Special attention shall be given to piping above ceilings, which must be kept a sufficient distance from the lighting outlet to permit later installations of the lighting fixtures and their reflectors fixtures, piping and equipment.
3. Arrange and install piping as indicated, straight, plumb, free of traps, and as direct as possible, form right angles on parallel lines with building walls. Keep pipe close to walls, partitions and ceilings, offset only where necessary to follow walls, as directed.
4. Locate groups of pipes parallel to each other and space them at a distance to permit access for servicing valves. Risers shall not have couplings in runs from one floor outlet to the next.
5. The installation of copper tubing shall be accomplished in such a way as to not touch or come in contact in any way with ferrous metals. Where copper tubing piping or fittings may come in contact with ferrous metal anchors, supports or construction, an insulating non-conductor spacer, similar to lead, rubber or an approved equal, shall be installed to assure prevention of electrolysis.
6. Piping size change shall be accomplished by reducing ell, reducing tee. Eccentric reduction shall be applied in all piping requiring continuous drainage such as steam, condensate and blowdown piping. Concentric increasers shall be used where flow is in direction of increased size. Provide eccentric reduction, top flat, at pump suction reductions.
7. All welding piping shall be butt welded at circumferential joints. Flanges shall be weld-neck type or slip-on type flanges. Materials and methods for each type and class of piping are generally specified for particular services in this specification.
8. Companion flanges or Victaulic couplings at equipment or valves match flanges construction of equipment or valve. Raised face shall be removed at companion flanges when attached to flanges equipped for flat face construction.



9. Gaskets and bolting shall be applied in accordance with the recommendations of the gasket manufacturer and bolting standards of the Code for Pressure Piping (ANSI B31.1.0-1967 par. 108, 135). Strains shall be evenly applied without overstress of bolts.
10. Screw threads (ANSI B31.1.0 par. 135.4) shall be made up with piping compound or other sealing method approved to assure tight joints without overrun of thread into fittings. Compounds shall be approved for service application.
11. Threaded pipe shall be carefully cut, reamed or filed out to size of bore removing all chips, worked into place without springing. Provide Teflon tape on the male thread only. Threaded joints when tight shall not expose more than two full threads.
12. Grooved ends shall be clean and free from indentations, projections, and roll marks in the area from pipe end to groove. All grooved couplings, fittings, valves, and specialties shall be the products of a single manufacturer. Grooving tools shall be of the same manufacturer as the grooved components.
13. Copper tubing shall be worked into place without springing.
14. Dielectric couplings or brass adaptors suitable for dielectric service shall be provided at pipe connections between steel or cast iron piping and copper piping.

C. Prevention of Water Contamination:

1. Water supply connections to plumbing fixtures and equipment.
  - a. Provide over-rim water supplies whenever possible.
  - b. Provide following with approved vacuum breakers and/or check valves or backflow preventors as noted or required.
    1. Necessary below-rim connections.
    2. Hose connections.
    3. Connections or outlets for HVAC piping systems.
  - c. Approved air gaps on water piping where noted or required by local authorities.
2. Equipment supplied under other sections of work and/or by the City of New York, and having below-rim water supply connections, may not arrive on job in Code-approved condition.



- a. Provide missing vacuum breakers and/or check valves, or relocate same to Code approved positions.
- D. Connections to Equipment:
1. Flanges, unions or threaded adapters.
- E. Branch Water Connections:
1. Provide three elbow swing connections for all water lines connecting to mains, sub-mains or branch mains.
- F. Expansion Requirements:
1. All piping shall be installed throughout the project with due regard for expansion to prevent damage to the building, equipment and piping. Provide anchors, loops or approved type expansion joints where indicated or required for the accurate control of movement.
  2. Branch connections to mains for risers shall be made with minimum of three 90 degree elbows.
  3. Bullhead connections in any piping service are expressly prohibited.
  4. Expansion pipe loops shall be supplemented with adequate guides as close to loops as possible to preserve alignment and pitch.
  5. Securely support pipe anchors, constructed of steel angles and channels, required to keep pipe movement within area of expansion provision. Submit anchor details for approval before installation.
  6. Provide adequate expansion allowance for service temperatures and piping materials.
  7. When installing piping with loop or bend expansion, subject piping to cold spring, which will take care of about half of total expansion between hot and cold conditions. Make riser offsets in manner to avoid pocket forming due to expansion. Submit anchor details for approval before installation.
  8. Expansion and contraction of grooved IPS steel piping systems shall be provided with loops or bends consisting of (8) Victaulic Style 75 or 77 flexible couplings, (4) grooved end 90 degree elbows, and grooved end pipe spools provided in water systems to 230°F in accordance with Victaulic recommendations for expansion compensation.
- G. Concealed Piping:



1. Where so indicated or specified, piping shall be concealed in building construction. Install such piping in time so as not to cause delay to work of other trades, and allow ample time for tests and approval, do not cover before approval is obtained. Wherever possible, run branches passing through floor into partitions, offset above floor close to equipment and expose only as much as necessary for final connection.
2. Where furred spaces are indicated, keep pipes as close to structural members as possible so as to acquire minimum furring. In case of furred beams, obtain approval of resulting headroom clearance before installing pipes. This Contractor is cautioned to check clearances on General Construction Drawings.

### 3.02 WELDING

- A. **Welding Process:** All welding shall be done by the oxyacetylene or electric arc welding process in accordance with the requirements set forth in Welding or Pipe Joints of the ASME Code for Pressure Piping.
- B. **Beveling and Welding:** All steel pipe 2-1/2" and larger may be purchased mill beveled or shall be machine beveled on both ends before welding. On odd lengths of pipe, beveling may be accomplished by means of the oxyacetylene cutting torch providing all paint, rust, scale and oxide are carefully removed with hammer, chisel or file. Joints shall be prepared and welded to assure thorough fusion with bare metal, complete penetration, maintenance of alignment, and the production of a joint that shall develop the full strength of the pipe and shall develop the full strength of the pipe and shall be leakproof in service.
- C. **Welding Rods:** The welding rod used for welding shall be Oswald No. BT or approved equal.
- D. All foreign matter shall be removed from the ends of pipe lengths before tacking and welding. Pipe lengths shall be lined up straight and abutting pipe ends shall be concentric. Spacing and tuck welding shall be such as to prevent the pipe from lapping or getting out of alignment during welding operation.
- E. All welding shall be done in accordance with the latest accepted practice applicable to the particular service and shall be performed only by welders who have been tested and qualified in accordance with the requirements of the ACA Piping Code for Welding. The Contractor shall furnish a certificate for each welder, certifying that the welder complies with these Specifications and of the National Certified Pipe Welding Bureau.
- F. Welders shall be licensed by New York City Department having jurisdiction to issue licenses.
- G. The welding of high pressure piping shall be under Controlled Inspection as required by the Building Code.



### 3.03 STRAINERS

- A. Provide approved self-cleaning strainers in inlet connections to each feeder and make-up connection, each automatic control valve and all automatic devices whose proper functioning would be affected by solids in the fluid.
- B. Except as noted, strainers in water lines to be Y-pattern set in a horizontal (or vertical downward) run of the pipe. Where it is not feasible, strainers may be of enlarged cross-section flat type. In all case, arrange strainers as not to "trap" pipes, and to facilitate disconnection and opening-up for cleaning.
- C. Provide approved valved dirt blowout connection for each strainer. Each valve located at hand-height and piped to the nearest floor drain, at a point where there is no risk of flooding or damage.
- D. Clean the strainers as necessary until accepted by the Owner.
- E. Install strainers upstream of automatic control valves with the same size as the inlet pipe serving the control valve.

### 3.04 AIR VENTS

- A. Provide soft temper copper tube pigtail on manual vents so that end can be placed over a bucket.
- B. Provide all manual air cocks and automatic air vents required throughout the water circulating system for the removal of air, of ample strength for the pressure to which they will be subjected. Provide automatic air vents at all high points.
- C. Provide air vents of the compression type, all bronze construction, key operated. Provide each heat transfer element supplied with water with not less than 1/2" manual air vent. Furnish ten (10) keys. Provide air chambers where indicated.
- D. Use inverted ball float traps for vent water risers, mains and branches and where required. Trap Size: 3/4" with inlet an overflow connections, both valved.
- E. Provide manual air vent valves in the piping connections to each hot water heating coil and each chilled water coil (both supply and return where such are not automatically vented). Provide a 1/4" vent line from each air vent to nearest floor drain, or as directed, to suit job conditions.
- F. Provide gate valves with capped bibb connections at all drain points. Hose bibbs only will not be acceptable. Install capped drains at all low points of the systems. Threads of hose bibbs to fit standard rubber hose connection.



3.05 INSTALLATION NOTES FOR SITE PIPING SYSTEMS

- A. All piping and fitting shall be installed straight, and all joints shall be kept free from dirt and grit.
- B. After trench has been excavated in accordance with these Specifications, pipes may be rolled to the trench, but shall be carefully lowered by suitable rigging and placing as herein provided. Pipe shall not be rolled into trench.
- C. All straight pipe and special castings shall be cleaned by brushing and by washing out all foreign matter prior to laying. If the Architect so directs, a proper mandrel shall be provided by the Contractor which shall be drawn forward as each pipe or special casting is laid. All branches and other openings shall be stopped up by wooden plugs or heads until either connected or capped. Pipe and special casting shall be laid to required line or grade. Where necessary, temporary wood blocking shall be used; such blocking to be removed as backfilling progresses. Whenever it is necessary to connect with or relay existing water mains, such connections or alternations shall be made by Contractor as specified herein.
- D. All taps and connections that are started must be completed before the closing down of operations at the end of the work day.
- E. Plug or cap any remaining open ends which result from the removal of existing pipe which is to be abandoned. The open ends shall be plugged or capped with cast iron plugs or caps. Live ends of pipe shall be plugged or capped and backed with concrete to provide sufficient bearing equal to the pressure in the pipe times the area of the pipe as directed by the Architect.
- F. All water lines shall have at least 4'-0" cover at all points. These depths shall be increased where necessary for making connections or for avoiding subsurface structures, drainage, sewer or other facilities or where frostline is greater.
- G. Piping shall be properly aligned, graded and supported. Piping shall be of correct lengths to permit the joints to be made up without springing or forcing. Change in direction shall be made by use of fittings. Piping shall not be deflected from a straight line at joints in either horizontal or vertical plane, except as authorized by the Architect, and not to exceed the recommendations of the manufacturer.
- H. During construction temporary plugs or caps shall be installed in completed portions of the piping as directed by the Architect. All portions of the Contractor's work shall be carried out so as to prevent the entrance of dirt or other foreign matter into the system.
- I. Make all crossings as required by conditions encountered during construction at no additional expense to the Owner, including, but not limited to telephone conduits, cold water distribution, electric service, sanitary sewers, storm water drains and steam tunnels, etc.





- J. The work includes providing material and labor for the installation of elbows, tees, short lengths of pipe, concrete thrust blocks, concrete encasement or supports and such other incidental which will provide an adequate clearance from an existing utility line and/or sufficient cover.
- K. Be responsible for all damage to utilities and repair same at his own expense to the satisfaction of the Architect.
- L. Provide vertical and horizontal separation between new sewers and water mains in accordance with Codes and Standards requirements.
- M. Reaction or thrust backing shall be applied at all bends, tees, reducers, plugs, caps, valves and dead ends for the water main. Size and shape of concrete backing shall be as approved by the Architect, but in any case shall be sufficient to provide bearing equal to the pounds of pressure multiplied by the cross-sectional area of the pipe.
- N. Backing shall be of concrete and shall be placed between solid ground and the fitting to be anchored. Backing shall be placed so that the pipe and fitting joints will be accessible for repair, unless otherwise directed by the Architect. Provide tie rods set into concrete. Provide one layer of tar paper between fitting and concrete.

### 3.06 INSTALLATION NOTES FOR INTERIOR PIPING SYSTEMS

- A. It is the intent that each part of the plumbing systems shall be complete in all details and all lines provided with all control valves as indicated on Drawings, or as may be required for the proper control of the pipe lines under this Section so that any fixture, line or piece of apparatus may be removed for repair without interference or interruption of the service to the rest of the building.
- B. The size of storm, soil, waste, water, and vent piping shall be as determined by the local rules and regulations for plumbing and drainage, except where specifically noted to be larger by the Specifications or plans; and all fixed rules of installation as set forth in the Rules and Regulations shall be followed as part of the Specifications.
- C. Carefully examine the architectural plans and details and become familiarized with all conditions relative to the installation of piping, particularly where same is concealed behind furring or in hung ceilings.
- D. Do not permit piping to be exposed beyond finished plaster lines unless specifically shown on Drawings. Consult with the other trades in the building and install piping in such a way as to least interfere with the installation of other trades.
- E. Do not conceal or insulate piping until all required tests have been satisfactorily completed and work has been approved by the Architect and all other authorities having jurisdiction.



- F. Where complete concealment is impossible because of obstruction such as beams, ducts, lights, piping, do not install any work before first consulting with the Architect and his instructions (written or revised drawings) shall be followed.
- G. Press Fittings
1. If the Contractor elects to use press fittings all pipe fitters shall obtain field training from the fitting manufacturer and shall have a certificate indicating that they have had the required field training.
  2. Press bronze, or copper fittings: Pipe ends shall be cut on a right angle (square) to the pipe. Pipe ends shall be reamed and chamfered, all grease, oil or dirt shall be removed from the pipe end with a clean rag. Visually examine the fitting sealing element to insure there is no damage, and it is properly seated into the fitting. Insert pipe fully into the fitting. Make a mark with a felt tip pen on the pipe at the face of the fitting. Always examine the tube to insure it is fully inserted into the fitting prior to pressing the joint. Sealing elements shall be verified for the intended use. Installers shall be trained by manufacturer's representative.
  3. After press fittings have been installed a "step test" shall be followed. Utilizing air, water, or dry nitrogen, pressurize the system not to exceed 85 psi. Check for leaks. If leaks are not found proceed to pressurize the system to the recommended pressures, not to exceed 600 psi. Should a leaking joint be found that has not been pressed, relieve the pressure from the system, ensure the tube is fully inserted into the fitting and press the fitting. Resume test procedure, after the necessary repairs have been made.

**END OF SECTION 221100**



## SECTION 221300

### SANITARY AND WASTE DRAINAGE SYSTEMS

#### PART 1 – GENERAL

##### 1.01 GENERAL REQUIREMENTS

- 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. Work of this specification as shown or specified should be in accordance with the requirements of the Contract Documents.

##### 1.02 WORK INCLUDED

- A. Work of this Section includes all labor, materials, equipment and services necessary to provide Drainage Systems as shown on the drawings and as specified herein.
  - 1. Complete Sanitary Systems:
    - a. Connections to plumbing fixtures.
    - b. Connections to equipment requiring same.
    - c. Floor drains

##### 1.03 RELATED WORK

- A. Common Work Results for Plumbing – Section 220511
- B. General Duty Valves – Section 220523
- C. Plumbing Fixtures – Section 224000
- D. Plumbing Insulation – Section 220711
- E. Plumbing Equipment and Accessories – Section 223000
- F. Plumbing Tests – Section 220513



G. Motors and Motor Controllers – Section 220514

1.04 QUALITY ASSURANCE

- A. A.N.S.I. – American National Standards Institute
- B. Building Code of the City of New York
- C. American National Standards Institute: ANSI A112.1.2. – Air Gaps in Plumbing System
- D. New York State Department of Environmental Protection

1.05 SUBMITTALS

- A. Shop Drawings:
  - 1. Pipe and fittings.
  - 2. Drains.
  - 3. Cleanouts.
  - 4. Valves.
  - 5. Traps.
  - 6. Grease interceptor
  - 7. Sand interceptor.

1.06 WARRANTY

- A. Sanitary and Waste Drainage System: Provide written 3 year parts and material warranty issued by the manufacturer upon completion of the work.

**PART 2 – PRODUCTS**

2.01 MANUFACTURERS

- A. Floor Drains, Cleanouts, Plumbing Fixtures Supports:
  - 1. J.R. Smith Manufacturing Co.
  - 2. Zurn Industries, Inc.



3. Josam Manufacturing Co.
4. Wade Division, Tyler Pipe & Foundry Co.
5. Ancon.
6. Proset Systems, Inc.

## 2.02 PIPING MATERIALS

### A. Cast Iron Waste, Drain, and Vent Pipe and Fittings

1. Cast iron waste, drain, and vent pipe and fittings shall be used for the following applications:
  - a. Pipe buried in or in contact with earth shall be extra heavy, uncoated
  - b. Interior waste and vent piping above grade.
2. Cast iron pipe shall be bell and spigot or hubless (plain end or no-hub or hubless). Couplings: Type 304 stainless steel, neoprene gasket, four clamps (six for pipe size 5" and larger). Anaheim Foundry Company A Husky @ Series 4000 or approved equal.
3. The material for all pipe and fittings shall be cast iron soil pipe and fittings and shall conform to the requirements of CISPI Standard 301, ASTM A-888, or ASTM A-74.
4. Joints for hubless pipe and fittings shall conform to the manufacturer's installation instructions. Couplings for hubless joints shall conform to CISPI 310. Joints for hub and spigot pipe shall be installed with compression gaskets conforming to the requirements of ASTM Standard C-564 or be installed with lead and oakum.

### B. Copper Tube, (DWV):

1. Copper DWV tube sanitary waste, drain and vent pipe may be used for piping above ground, except for urinal drains.
2. The copper DWV tube shall be drainage type, drawn temper conforming to ASTM B306.
3. The copper drainage fittings shall be cast copper or wrought copper conforming to ASME B16.23 or ASME 16.29.



4. The joints shall be lead free, using a water flushable flux, and conforming to ASTM B32.
- C. Kitchen Sanitary Piping:
1. Galvanized steel schedule 40 pipe with galvanized threaded cast iron drainage fittings.
  2. Provide drip pan below any sanitary piping hung in kitchen.
- D. Chrome Plated Brass Piping:
1. Exposed in rooms with fixtures and equipment in finished areas.

### 2.03 SPECIALTY PIPE FITTINGS

- A. Transition pipe couplings shall join piping with small differences in outside diameters or different materials. End connections shall be of the same size and compatible with the pipes being joined. The transition coupling shall be elastomeric, sleeve type reducing or transition pattern and include shear and corrosion resistant metal, tension band and tightening mechanism on each end. The transition coupling sleeve coupling shall be of the following material:
1. For cast iron soil pipes, the sleeve material shall be rubber conforming to ASTM C564.
  2. For dissimilar pipes, the sleeve material shall be PVC conforming to ASTM D5926, or other material compatible with the pipe materials being joined.
- B. The dielectric fittings shall conform to ASSE 1079 with a pressure rating of 125 psig at a minimum temperature of 180°F. The end connection shall be solder joint copper alloy and threaded ferrous.
- C. Dielectric flange insulating kits shall be of non conducting materials for field assembly of companion flanges with a pressure rating of 150 psig. The gasket shall be neoprene or phenolic. The bolt sleeves shall be phenolic or polyethylene. The washers shall be phenolic with steel backing washers.
- D. The di-electric nipples shall be electroplated steel nipple complying with ASTM F 1545 with a pressure ratings of 300 psig at 225°F. The end connection shall be male threaded. The lining shall be inert and noncorrosive propylene.

### 2.04 DRAINS

- A. Heavy cast iron, with double drainage flange and weep holes, with outlet connections as indicated and or sizes indicated on Drawings. Removable sediment basket shall be of



heavy-duty one-piece construction as specified hereinafter. All strainers or grates shall be secured with vandalproof spanner type screws, unless otherwise specified.

- B. In membrane waterproof floors or showers: Provide with 6 lb. lead flashing or 20 oz. soft rolled sheet copper and secured to the flashing flange with brass bolts and cast iron clamping device. Flashings shall bond not less than 1'-0" on all sides into membrane waterproofing.
- C. Flashing of 6 lb. lead or 20 oz. soft rolled sheet copper 34" x 34" shall be furnished and installed at each roof drain by means of non-puncturing type flashing clamping device.
- D. Set all drains in such a way that the floor finish and top of the drain will be plumb and flush with finish floor without requirements for future additional extension, modifications, etc.
- E. When Dex-O-Tex and/or vinyl waterproof floor is indicated on the Architectural Drawings, all drains must be provided with required flanges.
- F. All drains, except as noted, shall be J.R. Smith Mfg. Co. or approved equal.

#### 2.05 FLOOR DRAINS

- A. Conforming to ANSI A112.21.1
- B. Coated cast iron body.
- C. Integrated double drainage flange and weep holes.
- D. No-hub outlet.
  - 1. Type "A" (Toilet Rooms and Shower Drains): with nickel bronze 5" round top in toilets, 6" top in showers.
  - 2. Type "B" (Mechanical Rooms): similar to Type "A" with bottom bar grate.
- E. Removable secondary strainer:
  - 1. Floor Drains Type A (Kitchen, Finished Areas, Toilet Rooms):
    - a. 5" diameter with flashing collar, nickel bronze top.
  - 2. Floor Drains Type B (Mechanical Equipment Rooms):
    - a. flashing collar with cast iron tractor grate and flat bottom strainer. Provide cast iron funnel attached to grate, where noted.
  - 3. Drain in Trenches Type I:



- a. Bottom outlet with dome strainer.

2.06 CLEANOUTS

- A. Conforming to ANSI A112.36.2.
- B. Cast iron with bronze plug, full size up to 4" and at least half size for larger pipes with 4" minimum.
- C. Provide easily accessible cleanouts where indicated to make entire drainage system accessible for rodding. Provide at least 18 inch clearance to permit access to cleanout plugs.
- D. Cleanouts for cast iron pipe shall consist of tapped extra heavy cast iron ferrule caulked into cast iron fittings, and extra heavy brass screw plug with solid hexagonal nut.
- E. Cleanouts turning out through walls and up through floors shall be made by long sweep ells of "Y" and 1/8" bends with plugs and face or deck plates to conform to architectural finish in room. Where no definite finish is indicated on the Architectural and/or Mechanical Drawings, wall plates shall be chrome plates cast brass and floor plates shall be nickel bronze. Screws in cleanouts in finished areas shall be vandalproof.
- F. The following schedule indicates the various types of cleanouts required at various locations indicated on the Drawings. Cleanouts shall be J.R. Smith Mfg. Co. or approved equal. The characteristics and quality of the cleanout shall be as follows:
1. Cleanout fitting in vertical stacks shall consist of tapped tees, capable of receiving a rough brass raised head cleanout plug.
  2. Cleanouts in finished areas with recess for tile floors
  3. Cleanouts for 3 or more fixtures piped horizontally shall be extended to wall cleanouts.
- G. All cleanout plugs shall be brass and lubricated with graphite before installation.

2.07 TRAPS

- A. Each fixture and piece of equipment requiring connection to the drainage system shall be separately trapped by means of a water seal trap placed as close to the fixture as possible.
- B. All running traps shall have inlet handhole cleanouts and brass plug cleanouts in bottom. Cast iron traps in ground: omit bottom plug. All exposed P traps shall have bottom cleanouts and be chromium plated cast brass.





## PART 3 - EXECUTION

### 3.01 PIPE INSTALLATION

- A. The pipe installation shall comply with the requirements of these specifications and the code requirements of the local jurisdiction.
- B. Branch piping shall be installed for waste from the respective piping systems and connect to all fixtures, valves, cocks, outlets, casework, cabinets and equipment, including those furnished by the Government or specified in other sections.
- C. Pipe shall be round and straight. Cutting shall be done with proper tools. Pipe shall be reamed to full size after cutting.
- D. All pipe runs shall be laid out to avoid interference with other work.
- E. The piping shall be installed above accessible ceilings where possible.
- F. The piping shall be installed to permit valve servicing or operation.
- G. Unless specifically indicated on the drawings, the minimum slope shall be 2% slope.
- H. The piping shall be installed free of sags and bends.
- I. Seismic restraint shall be installed where required by code.
- J. Changes in direction for soil and waste drainage and vent piping shall be made using appropriate branches, bends and long sweep bends. Sanitary tees and short sweep quarter bends may be used on vertical stacks if change in direction of flow is from horizontal to vertical. Long turn double wye branch and eighth bend fittings shall be used if two fixtures are installed back to back or side by side with common drain pipe. Straight tees, elbows, and crosses may be used on vent lines. Do not change direction of flow more than 90 degrees. Proper size of standard increaser and reducers shall be used if pipes of different sizes are connected. Reducing size of drainage piping in direction of flow is prohibited.
- K. Buried soil and waste drainage and vent piping shall be laid beginning at the low point of each system. Piping shall be installed true to grades and alignment indicated with unbroken continuity of invert. Hub ends shall be placed upstream. Required gaskets shall be installed according to manufacturer's written instruction for use of lubricants, cements, and other installation requirements.
- L. Cast iron piping shall be installed according to CISPI's "Cast Iron Soil Pipe and Fittings Handbook," Chapter IV, "Installation of Cast Iron Soil Pipe and Fittings"



- M. Aboveground copper tubing shall be installed according to CDA's "Copper Tube Handbook".
- N. Slope horizontal drainage piping 3" and smaller, 1/4" per foot where possible, but minimum 1/8" per foot with minimum computed velocity 2 fps.
- O. Slope horizontal drainage piping 4" and larger, 1/8" per foot except as noted.
- P. Provide hanger support at starting end of all drainage lines which turn from vertical to horizontal.
- Q. Changes in direction of drainage piping by use of:
  - 1. 45 wyes.
  - 2. Long turn tee wyes.
  - 3. Long sweep quarter bends.
  - 4. Sixth, eighth or sixteenth bends.
- R. Slip Joints: On fixture trap inlets or elbows connecting to fixture tailpieces only.
- S. Vent Piping: Grade to drain out condensation and connect at base to prevent accumulation of rust.
- T. Locate cleanouts as follows:
  - 1. Approximately every 50 feet on horizontal drainage piping.
  - 2. Changes in direction.

### 3.02 JOINT CONSTRUCTION

- A. Hub and spigot, cast iron piping with gasket joints shall be joined in accordance with CISPI's "Cast Iron Soil Pipe and Fittings Handbook" for compression joints.
- B. Hub and spigot, cast iron piping with calked joints shall be joined in accordance with CISPI's "Cast Iron Soil Pipe and Fittings Handbook" for lead and oakum calked joints.
- C. Hubless or No-hub, cast iron piping shall be joined in accordance with CISPI's "Cast Iron Soil Pipe and Fittings Handbook" for hubless piping coupling joints.
- D. For threaded joints, thread pipe with tapered pipe threads according to ASME B1.20.1. The threads shall be cut full and clean using sharp disc cutters. Threaded pipe ends shall be reamed to remove burrs and restored to full pipe inside diameter. Pipe fittings and valves shall be joined as follows:



1. Apply appropriate tape or thread compound to external pipe threads unless dry seal threading is required by the pipe service
  2. Pipe sections with damaged threads shall be replaced with new sections of pipe.
- E. Copper tube and fittings with soldered joints shall be joined according to ASTM B828. A water flushable, lead free flux conforming to ASTM B813 and a lead free alloy solder conforming to ASTM B32 shall be used.

3.03 SPECIALTY PIPE FITTINGS

- A. Transition coupling shall be installed at pipe joints with small differences in pipe outside diameters.
- B. Dielectric fittings shall be installed at connections of dissimilar metal piping and tubing.

**END OF SECTION 221300**



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Project Title: Center for the Women of New York  
Fort Totten, Bayside, NY 11359

SANITARY AND WASTE  
DRAINAGE SYSTEMS  
221300 - 10



## SECTION 223000

### PLUMBING EQUIPMENT, SPECIALTIES & ACCESSORIES

#### PART 1 – GENERAL

##### 1.01 GENERAL REQUIREMENTS

- 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. Work of this specification as shown or specified should be in accordance with the requirements of the Contract Documents.

##### 1.02 WORK INCLUDED

- A. Work of this Section includes all labor, materials, equipment and services necessary to provide Equipment, Specialties and Accessories as shown on the drawings and as specified herein.

##### 1.03 RELATED WORK

- A. Common Work Results for Plumbing -Section 220511
- B. Sanitary, Waste, and Storm Systems -Section 221300
- C. Water Distribution Piping -Section 220523
- D. General Duty Valves -Section 231000
- E. Plumbing Insulation -Section 220711

##### 1.04 QUALITY ASSURANCE

- A. A.N.S.I. -American National Standards Institute
- B. A.W.W.A. -American Water Works Association
- C. F.S. -Federal Specifications
- D. N.F.P.A. -National Fire Protection Association
- E. A.G.A. -American Gas Association
- F. C.G.A. -Compressed Gas Association
- G. U.L. -Underwriters Laboratory
- H. Plumbing Code



1.05 SUBMITTALS

- A. Make submittals on all items listed above in Section 1.02, Work Included.
- B. Shop drawings indicating size, location, details and installation requirements.
- C. Product Data: Manufacturers' printed data, catalog cuts, test data, performance curves, manufacturer's recommendations.
- D. Wiring Diagrams: Submit manufacturer's electrical requirements for power supply wiring for HVAC equipments. Submit manufacturer's ladder-type wiring diagrams for interlock and control wiring. Clearly differentiate between portions of wiring that are factory-installed and portions to be field-installed.
- E. Operational and Maintenance Manuals: Manufacturer's instructions for operation and maintenance.

1.06 WARRANTY

- A. Plumbing Equipment and Accessories: Provide written 1 year parts and material warranty issued by the manufacturer upon completion of the work.

**PART 2 – PRODUCTS**

2.01 MANUFACTURERS

- A. Domestic Water Heaters: (Small)
  - 1. A.O. Smith Co.
  - 2. Bock Water Heater.
  - 3. Lochinvar.
  - 4. PVI.
- B. Domestic Water Heater/Storage Tank: (Large)
  - 1. PVI
  - 2. A.O. Smith
  - 3. Patterson-Kelley



C. Recirculation Pump:

1. Bell & Gossett
2. TACO
3. Thrush

2.02 DOMESTIC WATER BOOSTER PUMP SYSTEM

A. Provide factory-built and factory-tested packaged domestic water booster pump systems as indicated, of sizes, configuration, and capacities as scheduled, and as specified herein. Units shall consist of pumps, copper headers, variable speed drives, and controller. The entire system shall be listed under UL 2011, 38LW, "Packaged Pumping System" requirements.

B. Complete package system:

1. Pump manufacturer: Responsible for completeness of system including pumps, motors, controls, and controller and operation of system, including:
  - a. Detailed piping connection drawings and wiring diagrams.
  - b. Factory tested through complete range of operation.
  - c. Supervise final adjustment of controls, place system in operation and instruct Owner's operator for one day.
2. Complete package on common support:
  - a. Piping and valves shall comply with specification on piping and valves for domestic water.
  - b. Provide base with vibration isolators as detailed.

C. Pumps

1. Multi-stage centrifugal type.
2. Butterfly suction and discharge valves.
3. Stainless steel shaft sleeve, impeller, diffuser chamber and seal rings.
4. Mechanical seal assembly with tungsten carbide faces.



5. 2 heavy duty grease lubricated ball radial and thrust bearings in cast iron pedestal housing support pump.
  6. ANSI flanged connections.
  7. Cast iron suction/discharge chamber.
  8. Non-overloading characteristic so as not to exceed nominal rating of motor at any point on curve.
- D. Motors:
1. NEMA Premium, TEFC, continuous duty type.
  2. Vertically mounted with grease lubricated ball bearings.
  3. Hollow shaft type allowing axial adjustment of impellers.
  4. Wound for noted controller.
- E. Mounting:
1. Connected with flexible coupling.
  2. Aligned, bolted and doweled in place on heavy steel channel base or extended type cast iron bed plate with drainage lip, by manufacturer. Provide coupling guard.
- F. Provide automatic No Flow device to stop lead pump and start pump again at pressure drop, complete with pressure switch.
- G. Provide adjustable thermal detector within each pump casing to, at predetermined temperature, purge pump of hot water through relay and purge valve.
1. Purge valves: 1/2 inch threaded IBBM solenoid valve with self closing control (120 volt, single phase).
- H. Flow switch: Rotometer type with visible etched glass gauge for indicating flow, and compensating stainless steel orifice
- I. Hydropneumatic Tank
1. Bladder type, hydropneumatic, designed and constructed in accordance with requirements of the ASME Pressure Vessel Code and stamped with appropriate symbol.
  2. Tank shall include pre-pressurized, sealed-in air cushion which shall accommodate pressure increases and expanded water volumes in the tank.





3. Tank shall include butyl rubber or poly-propylene liner in lower, or water side of chamber. Minimum working pressure of tank shall be 175 psig.
4. Unit shall be designed and manufactured for domestic water applications. Insulate tank as specified. Check valve at hydropneumatic tank shall include small orifice for undue loading.

J. Variable Frequency Drives:

1. Each pump shall have its own variable frequency drive with the following features: The drive shall be a voltage source, GTR or IGBT power transistor based inverter-PWM Type. The inverter shall use a high carrier frequency to reduce drive and motor noise.
  - a. Drive shall be capable of operating in an ambient temperature between 15°F and 100°F and a line voltage variation of less than 10%.
  - b. Self protection features shall include: under voltage and over voltage protection, current overload protection, short circuit protection, power failure protection, ground fault protection, and over-temperature protection.
  - c. A four digit LED readout shall be provided to indicate the following: drive enabled, output frequency, and all VFD fault conditions.
  - d. The drive shall be capable of automatically restarting after any of the following: overload over-voltage, converter over-current, inverter over-current, or power failure.
  - e. The following drive parameters shall be user adjustable: acceleration speed (1 to 300 seconds), deceleration speed (1 to 300 seconds), minimum speed, and maximum speed.
  - f. The drive shall have a front mounted "HAND-OFF-AUTO" selector switch and a potentiometer for adjusting drive speed in the "HAND" position.

K. System Operation:

1. Automatically maintain constant system pressure plus or minus 2 psi at discharge of main control valve regardless of system flow demands between zero and maximum flow.
2. Automatic electrical alternation of lag pumps.
3. Upon drop in system flow, lag pumps shall be stopped in reverse order of starting.



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4. Maintain system pressure at uniform constant pressure from varying higher discharge pressures with Variable Frequency Drives.
  - a. Valves: Threaded or flanged cast iron body with stainless steel trim, adjustable hydraulically operated bronze (stainless steel mounted) pilot controlled spring diaphragm type, 250 psi wsp.
  - b. Adjustment range 30-300 psi.
  - c. Main valve with flow control.

L. Pressure Sensor/Transmitter:

1. A digital pressure transmitter shall be connected system header. The transmitter shall have 1.0% accuracy, stainless steel wetted parts and a waterproof enclosure.
2. Transmitter shall be capable of withstanding over pressurization of double its range. Transmitter shall have independent zero and span adjustments.

M. Sequence of Operation:

1. The control system shall start, stop and vary the speed of the pumps as required by system demand. The controller shall sequence pumps based on pressure readings from a pressure transducer and flow readings from an insertion type paddlewheel flow sensor. As a backup, a factory set pressure switch shall sequence pumps when system pressure falls below the setpoint. Should the system demand exceed the capacity of the lead pump or should the lead pump fail to operate, the lag pumps shall be started, in sequence. Upon drop in system flow, the pumps shall be stopped in reverse order. In the event of an abnormally low suction condition, the system shall shutdown and activate the alarm. Automatic sequencing shall include the following features: sequence shifting that adjusts the pump sequence when any pump is disabled, successive and 24 hour alternation of equal capacity pumps with pump overlap, lag pump exerciser function, special sequencing to reduce surges during power restoration, sequential sequencing of lag pumps, minimum run and stop delay timer for each pump, and field adjustable time delay for lag pump pressure start signals.

N. Control Panel:

1. Furnish a controller in a NEMA-1 enclosure with individual through the door circuit breaker disconnect switches and variable frequency drives for each pump. The controller shall include a 120 volt fused control circuit transformer, automatic 24 hour alternation circuit, programmable logic controller having non-volatile EEPROM memory, operator interface, digital flow meter with totalization and multiple position selector switch. Include the following:
2. Combination unfused disconnect switch.



- a. Overload protection for each phase leg.
- b. Under voltage release.
3. 120 volt control circuit transformer with fuse in secondary and automatic transfer switch on primary.
4. Heavy duty HOA selector switches.
5. 4 PDT transfer switch.
6. Automatic electric alternator.
7. Flow switch with indicating lights.
8. Pressure switches.
9. Necessary relays.
10. Low suction pressure cutoff with automatic reset.
11. Pneumatic timers.
12. Test buttons.
13. Emergency start circuit on loss of pressure of lead pump.
14. Contact for remote low system pressure alarm.
15. Pump running and alarm lights.
16. 4-1/2 diameter suction, discharge and system gauges.
17. Mounted and pre-wired in single NEMA-1 enclosure.
18. All gauges and pilot lights: visibly mounted.
19. System interface shall be 4.5", 256 color touch screen HMI interface providing all system data such as pressure, pump speed, amperage, run-time per pump, system temperature and timing functions without the need to open the panel door.
20. All control wires shall be individually numbered, and each component shall be labeled accordingly. All internal wiring shall be copper stranded, A.W.G. with a minimum insulation of 90°C. The complete assembly shall have the UL-508 listing mark for industrial control panels.



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- O. Provide 1/4" in. gauge piping, complete with brass gauge cocks from control panel to suction header, discharge and discharge of each pump.
- P. Quality Assurance:
1. All equipment under this section shall be furnished by a single supplier having sole responsibility for proper functioning of the system. The equipment shall be products that the manufacturer has regularly produced for a minimum of three (3) years. The manufacturer shall have on staff a register professional engineer (PE) and degreed mechanical and electrical engineers.
  2. The booster system manufacturer shall comply with OSHA and Federal Regulation 29 CFR 1910.399 requiring complete system certification by an NRTL (Nationally Recognized Testing Laboratory (Independent Third Party)). The system shall be certified by ETL under sections 219.225 & 281 and also be UL Listed under 9F35.
- Q. Factory Test and Certification:
1. The booster system and its component parts shall undergo a hydrostatic pressure and complete operating flow test from zero to 100% design flow rate under the specified suction and net system pressure conditions. The testing shall comply with ANSI/SAE J745-APR87 Hydraulic Power Sump Test Procedures. The testing shall also include a hi-pot voltage test of the system. The final system certification shall include copies of the ETL and UL Certifications and test data as recorded by X-Y plotter. The Commissioner shall have the option to witness the test. The entire system shall be painted after testing.
- R. Start-Up & Warranty
1. The Pump Manufacturer's Representative shall have single source responsibility for the pumps and complete control system. Start-up services including pump alignment, adjustment and field calibration of controls, operator instruction and system warranty shall be included in the price for the system. The warranty shall be 12 months from date of start-up..
- S. Installation & Field Piping

Install the system adjacent to a floor drain to prevent building damage in the event of pump mechanical seal failure. The contractor shall interconnect the tank and system, as described above and shall pipe the discharge of the over temperature purge valves to the floor drain. The contractor shall install a full sized bypass around the pump system with check and isolation valves.

### 2.03 ELECTRIC DOMESTIC WATER HEATERS:

- A. The tank construction shall be steel shell, with a inner tank liner complying with NSF 61 for barrier materials for potable water. The inner liner shall be extended into the

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tappings. The vessel shall be ASME Boiler and Pressure Vessel Code (BPVC), section VIII, fabricated with a pressure rating of 150 psig.

- B. Tapping (openings) shall be Factory fabricated of materials compatible with the tank and in accordance with appropriate ASME standards B1.20.1 for piping connections, pressure and temperature relief valve, pressure gauge, thermometer, drain valve, anode rods and controls as required. Tappings shall comply with the following:
  - 1. 2 inch and smaller: Threaded ends according to ASME B1.20.1.
  - 2. 2 1/2-inch and Larger: Flanged ends according to ASME B16.5 for steel and stainless steel flanges, and according to ASME B 16.24.
- C. Tank insulation shall comply with ASHRAE 90.1.
- D. For domestic hot water heater sizes greater than 9 KW, the heating element shall be arranged in multiples of three elements. For heaters less than 9 KW, the heater elements shall be arranged in double elements.
- E. The domestic hot water heaters shall have screw in or bolt in immersion type, thermostatically adjustable. Set thermostat for maximum water temperature of 140°F. The electrical characteristics are scheduled on the drawings.
- F. Combination Pressure and Temperature Relief Valves shall be ASME rated and stamped for combination temperature and pressure relief valves. One or more relief valves with total relieving capacity at least as great as the heat input shall be included. The pressure setting shall be less than the domestic water heater working pressure rating.
- G. The anode rod shall be replaceable magnesium.
- H. The drain valve shall be corrosion resistant metal complying with ASSE 1005.
- I. A stainless steel drain pan shall be provided that is large enough to contain the volume of the heater. The drain pan shall include a drain outlet not less than 20 millimeter or NPS 3/4" with ASME B1.20.7 garden hose threads.
- J. The electric heater shall be manufactured by A.O. Smith or approved equal.

#### 2.04 HEAT TRAPS

- A. Heat traps shall be installed in accordance with ASHRAE 90.1, latest edition.

#### 2.05 COMBINATION TEMPERATURE AND PRESSURE RELIEF VALVES

- A. The combination temperature and pressure relief valves shall be ASME rated and stamped and include a relieving capacity at least as great as the heat input and include a pressure setting less than the water heater's working pressure rating.



2.06 HOT WATER RE-CIRCULATION PUMP

- A. In-line type, Bronze body, Brass impeller.
- B. Capacities and model as noted on drawings.
- C. For pumps  $\frac{1}{2}$  hp and higher: Provide pump, a combination circuit breaker and magnetic across-the-line motor started with hand off automatic switch all mounted in a safety cabinet.
- D. For pumps less than  $\frac{1}{2}$  hp: Provide motor starters with proper size thermal overload and pilot light.
- E. Provide 24-hour, repeating, adjustable timer mounted in the safety cabinet specified above. Select pump will run continuously or as selected by Timer.
- F. Pump shall be manufactured by Bell and Gossett, Taco, or approved equal.

2.07 WATER FILTERS

- A. Provide cartridge type filters of the type and capacity as scheduled. Filters shall be installed in the following locations:
  - 1. Pantry sinks.
- B. NSF certified.
- C. Filter shall be manufactured by ELKAY Water Sentry VII Model No. EWF-172 or approved equal. Provide 2 replacement cartridges per filter model 51299-C.

2.08 SELF CLEANING WATER FILTERS

- A. Product shall comply with NSF/ANSI 61 Annex G and NSF/ANSI 372 and conform with lead content requirements for "lead free" plumbing as defined by the US Safe Drinking Water Act effective January 4, 2014, certified for use with potable water in accordance with Federal and State Law.
- B. 3" inch inlet and outlet 150# raised face flange connections. Unit shall continuously filter up to 150 GPM through an extrafine screen providing greater than 98% reduction of particles larger than ten microns.
- C. Operation description,

The water flows into the filter body and through the stainless steel course filter element (10,000-micron) outside in, keeping large debris from entering the fine screen. Once water flows through the course screen, the water enters the stainless steel fine filter element inside



out, allowing the dirt to accumulate on the inside of the element. A Differential Pressure Switch (DPS) senses the pressure differential across the filter as filter cake builds up on the element. The DPS shall signal the control panel (PLC) to initiate the cleaning cycle of the filter when the filter cake causes a pressure differential of 7 PSI. The DPS shall have an easy read "Pointer & dial" gauge and switch mechanism. During the flushing cycle, there will be no interruption of flow and with a clean screen the filter will lose less than 1 PSI at the maximum flow rate. The filter operation and flushing shall be controlled and monitored by a PLC control panel. The panel, and its related circuitry, shall be housed in a wall-mounted NEMA 4-rated enclosure.

D. Cleaning Mechanism

The filter cleaning mechanism will consist of a spiral moving "spring-loaded" suction scanner, constructed of a 316 stainless steel assembly. By opening a 2" flush valve the scanner will create high efficiency suction force on each of the four cleaning nozzles. During that time, the four nozzles will cover the total area of the screen. The nozzle head shall contact the screen surface at a constant pressure in order to maximize cleaning efficiency. The flushing flow rate will not exceed 50 GPM at 40 PSI. The cleaning cycle will be completed in 20 seconds or less. The minimum pressure required for flushing shall be 45 PSI at a flow rate of 50 GPM.

E. Driving Mechanism

The suction scanner will be driven by a ¼-hp electric motor that is connected to the suction scanner through a threaded shaft that travels inside a threaded bearing. The movement created by the electric motor will cause the scanner to move in a spiral motion at a speed of 23/28 RPM (@440vac/60Hz). The control of scanner, by the electric motor, will be limited by two normally closed limit switches and movement by the control panel.

F. Filtration Element

The filter element shall be out of a patented construction of a combination of wedge and weave wire screens, consisting of four layers, fabricated together in order to achieve both greater open area and mechanical strength. The collective screen shall be made of 316L stainless steel. The screen's external support will be constructed of wedge-wire for mechanical strength. The fine weaved-wire screen shall be sandwiched (protected) between two 3000-micron weaved-wire additional layers. The total surface area of the screen will be 465 sq./in, and will be able to withstand an internal/external pressure of 100 PSI without any damage.

G. Housing Construction

The filter shall be of high-grade carbon steel (#37.2), zinc-phosphate dipped and coated with multi-layer epoxy. The maximum operating pressure of the body is 150 PSI (225 PSI is optional) and has a maximum operating temperature of 140° F. The filter body shall have the capability to accept filter elements with varying micron degrees, of a weave-wire design, and that are totally interchangeable in the same body.

H. Control System



1. The filter control system will consist of a PLC control system that will control all aspects of the filter operation, including monitoring the DPS, controlling the flush valve, operating the electric motor and limit switches. In addition, built-in features of control panel will allow the following options:
  - a. Be connected to a central control system.
  - b. Trigger an alarm system.
  - c. Open an automatic by-pass valve
2. The filter shall also conform to international quality code: ISO-9002  
(-Meets or exceeds all current US domestic quality requirements for filtration devices including, but not limited to, ASNI, AWWA, ASE, etc.)

## 2.09 VIBRATION ISOLATION

- A. Base Named Manufacturer – Consolidated Kinetics
- B. All mechanical equipment over 1 horsepower unless otherwise noted, shall be isolated from the structure by means of resilient vibrator and noise isolators. Mounts and bases shall be as listed in the equipment schedule, and as described herein.
- C. Mounts and Bases
  - (1) “N” Mounts – Type RD neoprene mounts, incorporating completely enclosed metal inserts to permit bolting to the supported unit.
  - (2) “F” Mounts – Type KIP-Q precompressed molded fiberglass isolation pads, neoprene-jacketed and stabilized during manufacturer.
  - (3) “S” Mounts – Type FDS freestanding, unhooded stable spring mounts, incorporating leveling bolts, and 1/4” thick neoprene-jacketed precompressed molded fiberglass noise isolation pads.
  - (4) “L” Mounts – Type FRS freestanding, unhooded stable spring mounts, similar to type FDS, except incorporating vertical limit stops.
  - (5) “H” Hangers – Type SFH combination spring and fiberglass hangers, incorporating 2” thick neoprene-jacketed precompressed molded fiberglass inserts in series with springs, all encased in welded steel brackets.
  - (6) “B” Bases – Type SRB or SBB structural steel rail or beam bases, designed and supplied by the isolator manufacturer.
  - (7) “I” Bases – Type CIB reinforced concrete inertia bases, the steel members of which are designed and supplied by the isolator manufacturer. The concrete shall





be poured into a welded steel channel frame, incorporating prelocated equipment anchor bolts and pipe sleeves, welded-in 1/2" diameter reinforcing bars of 8" centers each way, and isolator brackets to reduce the mounting height of the equipment.

- (8) Installation shall be in accordance with manufacturer's instructions.

Other Acceptable manufacturers – Mason Industries, Korfund.

2.10 FLEXIBLE CONNECTORS

- A. Furnish and install flexible connectors at all pipe connections to rotating or reciprocating equipment.
- B. Twin, sphere, floating flange type.
- C. Characteristics shall be as follows:

<u>(O.A.) Pipe Size</u>	<u>Length</u>	<u>(@ 70°F) Max. W.P.</u>	<u>(Inches) End Max. Offset</u>	<u>Conn.</u>
3/4"	11"	675	0.50"	MPT
1"	12"	550	0.25"	MPT
1- 1/4"	13"	510	0.50"	MPT
1- 1/2"	14"	450	0.50"	MPT
2"	15"	435	0.50"	FLG
2- 1/2"	16"	350	0.25"	FLG
3"	17"	325	0.25"	FLG
4"	19"	270	0.50"	FLG
5"	20"	200	0.50"	FLG
6"	21"	185	0.50"	FLG

- D. Flexible connectors shall be braided stainless steel annular close pitch hose with stainless steel braid. M.P.T. ends shall be carbon steel. Flange ends shall be 150 lb. rated conforming to ANSI B16.5.

2.11 HEAT TRACING

- A. UL listed, self-regulating, 208V single phase.
- B. 16 AWG copper bus, 5 Watts per foot.
- D. For water piping subject to freezing



## PART 3 – EXECUTION

### 3.01 GENERAL REQUIREMENTS FOR ALL PLUMBING EQUIPMENT

#### A. Examination

1. Examine areas to receive equipment for compliance with requirements for installation tolerances and other conditions affecting performance.
2. Examine roughing-in for ductwork, piping, and electrical connections to verify actual locations before installation.
3. Proceed with installation only after unsatisfactory conditions have been corrected.

#### B. Installation

1. Secure all equipment to building structure and install equipment in accordance with approved detail drawings, manufacturer's instructions, and all codes and regulations which apply.
2. Install all accessories not factory installed.
3. Install equipment level and plumb unless otherwise noted.
4. Install equipment with required access and clearances. If there are field condition that prevent providing access and clearances notify the Commissioner. If the equipment is installed before rectifying the access and clearance issues the Contractor shall be require to remove and re-install the unit as required and make any associated changes to the associated ductwork, piping, wiring and controls at no cost to the Owner.
5. Where required suspend equipment from structure or mount on concrete base or stand with vibration isolators. Vibration isolators are specified under Section "Vibration Isolation and Seismic Restraints."
6. Install sensors and controls supplied with the equipment.

#### C. Connections

1. Piping installation requirements are specified in other sections.
2. Drawings indicate general arrangement of piping, fittings, and specialties. Arrange connections as per approved shop drawings.
3. Unless otherwise indicated, install shutoff valve and union or flange at each connection.



4. Install piping adjacent to equipment to allow service and maintenance.
  5. Ground equipment.
  6. Tighten electrical connectors and terminals according to manufacturer's published torque-tightening values.
- D. Field Quality Control
1. Testing: Perform the following field quality-control testing and report results in writing:
    - a. After electrical circuitry has been energized, start units to confirm proper motor.
    - b. Test and adjust controls and safeties
  2. Repair or replace malfunctioning units. Retest as specified above after repairs or replacements are made.
- E. Cleaning
1. After installing units, inspect equipment for damage to finish. Remove paint splatters and other spots, dirt, and debris. Repair damaged finish to match original finish.
  2. After installing equipment, clean internally according to manufacturer's written instructions.
  3. Install new filters in equipment within two weeks after start up.
  4. Basket strainers shall be initially cleaned two week after start-up with a second cleaning two weeks after that.
- F. Start Up
1. Verify that equipment is installed and connected according to approved shop drawings and contract drawing.
  2. Adjust flows and controls.
  3. Test and adjust controls and safeties. replace damaged and malfunctioning controls and equipment.
- G. Factory Start Up Service
1. Engage a factory-authorized service representative to perform startup service for the following equipment or as specified under Commissioning:
    - a. Domestic Booster Pump systems
    - b. Sewage Ejectors
  2. Inspect field-assembled components, equipment installation, and piping and electrical connections for proper assemblies, installations, and connections.



3. Complete installation and startup checks according to manufacturer's written instructions.
4. Prepare a written startup report that records results of tests and inspections.

### 3.02 PUMP INSTALLATION REQUIREMENTS

- A. The alignment of all pumps shall be checked and each pump shall be properly aligned after the piping is completed and before the pumps are placed in service.
- B. Mechanical seals and shaft sleeves shall be replaced by this Contractor without charge in the event the unusual wear of faulty operation occurs during guarantee period.
- C. Where pumps components are or may come in contact, although the materials may be basically similar, use hardness differentials of at least 50 Brinell to prevent seizure and reduce wear.
- D. Provide shaft packing or seals compatible with the pump design, fluid handled and in accordance with the manufacturer's recommendations.
- E. Balance pump impellers and all other moving components statically and dynamically.
- F. Completely align and level pumps, motors and bases. Where pumps and motors are shipped as a unit, realign them in the field.
- G. Grout equipment base plates completely to provide a rigid-non-deflecting support.
- H. Secure pumps to bases with proper size anchor bolts and vibration isolators.
- I. Each and align mechanical seals in accordance with the manufacturer's recommendations.
- J. Provide water supply for cooling and lubrication of seals and/or packing where required.
- K. **Booster Pump Installation & Field Piping**  
  
Install the system adjacent to a floor drain to prevent building damage in the event of pump mechanical seal failure. The contractor shall interconnect the tank and system, as described above and shall pipe the discharge of the over temperature purge valves to the floor drain. The contractor shall install a full sized bypass around the pump system with check and isolation valves.
- L. Provide flexible connection for pumps. Provide spring hangers for piping for pump to partition or wall penetration.
- M. Pumps must operate stably without pulsation, vibration or internal re-circulation. Pump operating characteristic curves must meet the following requirements:



1. The pump operating point must fall on or below an impeller diameter curve which is not more than 85% of the maximum diameter impeller which can satisfactorily operate in the casing.
  2. The pump operating point must fall below the point of no flow head pressure.
  3. Pump operating point must be to the right of the midpoints of the peak efficiency curves. Selected efficiency shall be not more than 3% points below maximum efficiency.
  4. A 10% increase in head pressure over the specified will result in not more than a 20% reduction in GPM and will not affect the stability of the pump.
- N. Select pumps so that when operating at rated RPM the pump motor cannot be overlooked despite variation in pumping head over entire range of curve.
- O. Where initial and ultimate operating conditions are specified, these shall be achievable by changing the pump impeller with no modifications to the casing.
- P. Upon completion of the installation, test all equipment under field operating conditions to demonstrate capability of the equipment to meet specification requirements.
- Q. Submit results of factory tests with the equipment shop drawings. Include result of factory and field tests in the Instruction Manual.
- R. Perform field tests to demonstrate the ability of the pumping equipment to meet contract requirements. Compile and certify the following data:
1. Water flow, GPM, at rated hand.
  2. Shutoff head.
  3. Operating kilowatts for measured voltage, amperes, power factor.

**END OF SECTION 223000**



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## SECTION 224000

### PLUMBING FIXTURES

#### PART 1 – GENERAL

##### 1.01 GENERAL REQUIREMENTS

- 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]

##### 1.02 WORK INCLUDED

- A. Work of this Section includes all labor, materials, equipment and services necessary to provide plumbing fixtures as shown on the drawings and as specified herein.

##### 1.03 RELATED WORK

- A. Common Work Results for Plumbing - Section 220511
- B. Sanitary, Waste, and Storm Drainage - Section 221300
- C. Water Distribution Piping - Section 221100
- D. General Duty Valves – Section 220523
- E. Plumbing Tests – Section 220513

##### 1.04 CODES AND STANDARDS

- A. Comply with applicable portions of: the New York city Building Code, New York City Plumbing Code, New York City Energy Conservation Construction Code, including all administrative decisions.

##### 1.05 QUALITY ASSURANCE

- A. References: ANSI:
1. A112.6.1M “Supports for Off-The-Floor-Plumbing Fixtures for Public Use”.
  2. A112.19.1M “Enameled Cast Iron Fixtures”.



3. A112.19.2M "Vitreous China Plumbing Fixtures".
  4. A112.19.3M "Stainless Steel Plumbing Fixtures".
  5. A112.19.5M "Trim for Water Closet Bowls, Tanks and Urinals".
  6. A112.18.1M "Finished and Rough Brass Plumbing Fixture Fittings".
- B. All fixture trimmings, including faucets, strainers, escutcheons, shower head and arm, water closet supplies, stops, waste trap, escutcheons, visible hanger or chair carrier nuts shall be made of brass and shall be polished chromium plated. All material to be specified as chromium plated and shall be thoroughly and evenly applied and guaranteed not to strip or peel. All chromium plating on plumbing fixture trim shall be in accordance with Federal Spec. WW-P-54 lb for grade "R" plating. Manufacturer shall submit certification that all chrome plating on finished trim meets aforementioned Federal Specification. All plated work shall be highly buffed. Plastic, zinc or white metal will not be approved.
- C. All fixtures shall be free from imperfections, true as to line, angles, curves and color, smooth, watertight, nameplate in every respect and practically noiseless in operation. Fixtures as specified are given as a typical standard and they or other approved fixtures shall be furnished, set and connected in good substantial, neat and workmanlike manner.
- D. Fixtures: vitreous china ware of the best quality, non-absorbent and manufactured so that the whole mass is thoroughly fused and vitrified, producing a material white in color which, when fractured, will show a homogeneous mass, close grained and free from pores. The glazing and vitreous china fixtures shall be thoroughly fused and united to the body, without discoloration, chips, or flaws, and shall be free from craze. Warped or otherwise imperfect fixtures will not be acceptable.
- E. Each supply fixture, casework fixture and equipment, shall be separately controlled by its own stops. Locate as required on wall, above floor or as directed.
- F. All faucets shall have metal handles. Shower valves shall have integral check stops on both hot and cold water supplies.
- G. All trim shall be permanently stamped with manufacturer's identification and shall be visible after installation.
- H. Colors and finishes shall be selected by the Architect.
- I. The contractor or subcontractor performing the work of this section must have 3 years' worth of experience.
- J. The manufacturer providing the material or equipment specified in this section must have 3 years' worth of experience.





1.06 SUBMITTALS

- A. Fixtures.
- B. Fittings and Faucets.
- C. Shower equipment.
- D. Fixtures literature and product data.
- E. Submit samples consisting of two pieces of each piece of brass work (fitting-trimming-etc.) required in connection with plumbing fixtures and showers, etc., only if other than specified item.

1.07 WARRANTY

- A. Plumbing Fixtures: Provide written 1 year material warranty issued by the manufacturer upon completion of the work.

**PART 2 - PRODUCTS**

2.01 MANUFACTURERS

- A. Plumbing Fixtures:
  - 1. American Standards
  - 2. Kohler
  - 3. Toto
  - 4. Or approved Equal
- B. Flushometers:
  - 1. American Standard
  - 2. Fluid Master, Inc.
  - 3. Sloan Valve Company
  - 4. Or approved Equal
- C. Brassware:
  - 1. Bristan
  - 2. Corsswater
  - 3. Dronbracht
  - 4. Or approved Equal



D. Faucets:

1. American Standard
2. Kohler
3. Chicago Faucets
4. Or Approved Equal

E. Water Closet Seats:

1. American Standard
2. Kohler
3. Toto
4. Or approved equal

F. Fixture Carriers:

1. Jay. R. Smith Manufacturing Co.
2. Zurn Industries, Inc.
3. Josam
4. Ancon, Inc.
5. Wade Division, Tyler Pipe & Foundry Co.
6. Or approved equal

2.02 FIXTURES

- A. Vitreous china, color as specified by Commissioner, except as noted.
- B. Stainless steel fixtures conforming to ANSI A112.19.3.
- C. For all handicapped traps and supplies provide ADA conforming insulation and guard kits
- D. Provide suitable floor mounted heavy cast iron chair carrier for each wall-hung fixture. Lag all bolts to slab.
- E. Unfinished surfaces of enameled iron fixtures: factory coat of paint.
- F. Floor mounted toilets: Vitreous china construction. Meets requirements for High Efficient Toilet (HET), 1.28 gpf, and meets WaterSense criteria. Elongated siphon action jetted bowl with smooth sided concealed trap. Oversized 3" flush valve with chemically resistant flapper. Furnished with elongated seat and cover.
- G. Wall hung lavatory: Vitreous china construction with rear overflow ports, soap depression, and faucet ledge. 15" x 11" x 6-1/4" deep basin. Furnished with two-handle cast brass construction faucet with 1.5 gpm max. flow rate.



- H. Kitchen sink: counter mounted, cast iron with acid-resistant enamel, single bowl. 14" x 16" x 7-1/2" deep basin. Meets ASME A112.19.1/CSA B45.2 standards. Furnished with 2.2 gpm max. faucet. Faucet with 9" swing spout and polished chrome finish.
- I. Service sink: Wall mounted, cast iron with acid-resistant enamel. Meets ASME A112.19.1 standards. 20" x 16-1/2" x 10-1/2" deep basin.

#### 2.03 CONNECTIONS

- A. Exposed Pipe, Fittings, Traps, Escutcheons, Valves, Valve Handles and Accessories, Above and Below Fixtures:
  - 1. CP brass.
  - 2. Set screw CP cast brass escutcheons for piping and tubing.
  - 3. Traps: CP cast brass with cleanouts plugs, unless otherwise noted.
  - 4. Covering tubes not permitted.
  - 5. CP type "L" tubing supply risers may be used.
  - 6. Wall hung water closets: chair carriers.

#### 2.04 FIXTURE FITTINGS

- A. Renewable seats or replaceable internal units.
- B. Composition washers.
- C. All metal indexed handles.
- D. Lockshield integral or built-in stops.
- E. Finishes: As selected by Commissioner.

### **PART 3 - EXECUTION**

#### 3.01 SERVICES TO FIXTURES AND EQUIPMENT FURNISHED UNDER OTHER SECTIONS

- A. Refer to Architectural and Plumbing Drawings for exact locations of equipment and fixtures. Provide all materials, equipment and appliances necessary and required to complete the installation of all fixtures and equipment, including but not limited to the following: plumbing, roughing and final connections, valves, stops, trim, escutcheons, fittings, traps, etc. Install faucets, trim, etc., furnished with the equipment provided by others.



- B. Unless otherwise detailed on Drawings, roughing of proper size and capacity for equipment indicated on Architectural, Heating and Ventilation, Plumbing or Electrical Drawings or provided under another Division or Section shall be provided and installed in such a manner and location that final connection can be made with a minimum of work and without cutting patching permanent walls, partitions, ceilings or floors. Drawings are by necessity, schematic, for special equipment as exact roughing and requirements may vary with different manufacturers.

### 3.02 INSTALLATION REQUIREMENTS

- A. Make all plumbing connections to all equipment and fixtures requiring such connections as shown on Drawings whether the equipment and fixtures are furnished under this Section or other Divisions or Sections. Investigate the equipment furnished under other Divisions or Sections to determine if combination fittings have a means of shutoff or require the installation of check valves, backflow preventers and/or pressure reducing valves. Make final connections to such, including installations of all special traps, supplies, control valves, etc., furnished with such equipment, and furnish all material necessary that is not supplied with the equipment.
- B. Provide valved water connections in equipment spaces and other locations where shown for the use of other trades or other Sections. On each valved outlet for equipment with submerged inlets, provide a backflow preventer after the shut-off valve. Funnel drains and/or floor drains for the air conditioning, heating and refrigeration work shall be provided.
- C. Fixture supplies and traps as specified, shall be chrome plated cast brass, where exposed to view. Where concealed from view in cabinets, etc., they may be rough brass. All fixture supplies shall have stops.
- D. As soon as installed, all metal fixture trimming shall be thoroughly covered by this Contractor with non-corrosive grease, which shall be maintained until all construction work is completed.
- E. Upon the completion of the Work, all fixtures and trimmings shall be thoroughly cleaned and polished and free from all marks and left in first-class condition.
- F. Upon completion of the Work, test flushometers and faucets for leaks or drips and adjust same for quiet and uniform operation.
- G. All fixtures shall be left thoroughly clean. All plated or polished fittings, pipes and appliances shall be coated with Vaseline, immediately after installation, and shall be finally polished and free from all marks and foreign substances.
- H. Equipment and all connections shall be in accordance with the rules relative to submerged inlets, and shall be provided with all necessary vacuum breakers and check valves, in accordance with the applicable codes.



- I. Connection between any fixture with a floor outlet and the flange shall be made with an approved prepared gasket that shall be a germicide, absolutely gas and fumeproof, watertight, stain-proof, containing neither oil nor asphaltum, and which will not rot, harden or dry under any extreme of climate change, and must adhere on wet surfaces.
- J. Each fixture shall be separately trapped, using the type and size of trap called for specifically in the Specifications, or the type required by the Plumbing Code. The traps shall be approved type.
- K. All 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 fixture.
- L. Be responsible for protecting against injury from the building materials, acids, tools and equipment, all plumbing fixtures, and equipment provided under Plumbing Work Sections.
- M. No slip joints will be permitted on water piping.
- N. Flexible supplies will not be permitted to fixtures in lieu of rigid supplies.
- O. Furnish and install all control wiring from plumbing fixture transformers to sensors and solenoids per manufacturers' requirements.

3.03 SEALING

- A. Seal between fixture and wall and/or fixture and floor with silicone sealant.

3.04 FIXTURE HEIGHT

- A. Fixtures shall be installed at height as shown on Architectural Drawings and/or as specified in Fixture Mounting Heights Schedule.

3.05 FIXTURE INSTALLATION

- A. Fixtures shall be installed in accordance with manufacturer's installation instructions. Fixtures shall have their rim and backsplash set level.
- B. Unless otherwise specified or indicated on the Drawings, wall hung water closets shall be siphon jet type.

**END OF SECTION 224000**



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## SECTION 230500

### COMMON WORK RESULTS FOR HVAC

#### PART 1 – GENERAL

##### 1.01 GENERAL REQUIREMENTS

- A. Work of this Section, as shown or specified, shall be in accordance with the requirements of the Contract Documents.
- B. 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]

##### 1.02 WORK INCLUDED

- A. Work of this section includes all labor, materials, equipment, disassembly and re-assembly of equipment, hoisting and rigging, scaffolding and services necessary to complete the Heating Work as shown on the drawings and specified herein, including, but not limiting to, the following:
  - 1. Boilers.
  - 2. Pumps.
  - 3. Piping.
  - 4. Ductwork.
  - 5. Controls

##### 1.03 RELATED WORK

- A. Division 1, Section 018114 – Volatile Organic Compound (VOC) Limits for Adhesives, Sealants, Paints and Coatings.

##### 1.04 CONTRACTOR'S RESPONSIBILITY

- A. The Contractor shall be responsible for establishing grades and elevations, checking of all interfaces, and shall verify all dimensions and locations in the field prior to the start of any work and/or installation of equipment piping and ductwork. The Contractor shall, at his expense, perform all minor rerouting of piping and ductwork around obstructions from new or existing construction whether or not such conditions are indicated on the plans. Minor rerouting of



pipng and ductwork is defined as any rerouting, which requires less than 10 linear feet of addition piping or ductwork (measured along the centerline) over and above that shown on the drawings in order to avoid an obstruction. Such rerouting shall be performed with piping or ductwork of a size equal to that shown on the original routing. Whenever an obstruction requires more than a minor rerouting as defined above, the Contractor shall report the condition to the Commissioner prior to that start of pipework or ductwork on the affected system. The Contractor shall be responsible for neglect of checking all elevations, clearances, dimensions and locations of piping and ductwork systems prior to the start of work on same.

- B. The Contractor shall verify with the Commissioner, any item of piping or piping arrangement, which may be incomplete, incorrect or indefinite. After contract is let, the Commissioner's decision shall be final.
- C. All trades shall cooperate and confer with each other as to locations of their materials and equipment before erecting work, so as to avoid interference as much as possible, and in such manner that will in no way retard progress of construction. In instances where interferences develop, the Contractor shall relocate the work as required by Commissioner, regardless of which work was installed first.
- D. Additional and supplemental drawings may, from time to time, be furnished and the same when made are to constitute a part of the original contract drawings and will not depart materially there from.
- E. The Commissioner specifically reserves the right, up to the time of roughing-in, to exactly define the position of the equipment to be installed and connected to and arrangement of these connections.
- F. Special attention is called to the contract drawings and specifications involving general construction, electrical work and details thereon. Bidders are notified to carefully scrutinize these documents for the details affecting the performance of the mechanical trades.
- G. The Contractor shall be responsible for determining how equipment shall be brought into the building and set in its location. The Contractor shall arrange with the equipment vendor to have the equipment broken down into as many pieces as required to rig the equipment into position and shall then be responsible for re-assembling the equipment. The contractor shall obtain a certification from the equipment manufacturer that the equipment was assembled correctly and the full equipment warranty shall be honored.

#### 1.05 SITE INSPECTION

- A. All bidders on this work may visit the job site and become thoroughly familiar with the conditions under which the work will be performed. The submission of a proposal shall be construed as evidence that the bidder has visited the site and has knowledge conditions. Any later claim for extra payment because of difficulties encountered will not be allowed.





1.06 SCHEDULE OF WORK

- A. Schedule all work to conform to the job progress schedule as submitted to and approved by the Commissioner.

1.07 SUBMITTALS

- A. Approval shall be obtained for all equipment and material before delivery to the job site. Delivery, storage or installation of equipment or material which has not had prior approval will not be permitted at the job site.
- B. All submittals shall include adequate descriptive literature, catalog cuts, shop drawings and other data necessary ascertain that the proposed equipment and materials comply with specification requirements. Catalog cuts submitted for approval shall be legible and shall clearly identify equipment being submitted.
- C. A minimum period of ten (10) working days, exclusive of transmittal time, will be required in the Engineer's office each time a shop drawing, product data and/or samples is submitted for review. This time period must be considered by the Contractor when scheduling his work.
- D. Submittals for individual systems and equipment assemblies which consist of more than one item or component shall be made for the system or assembly as a whole. Partial submittals will not be considered for approval.
- E. Submittals shall be marked to show specification reference including the section and paragraph numbers.
- F. Submit each section separately and include the following:
1. Information which conforms to contract requirements. Include the manufacturer's name, model or catalog numbers, catalog information, technical data sheets, shop drawings, pictures, nameplate data and test reports as required.
  2. Submittals on all pump and fans shall be complete with performance curves marked with the design points. Additionally, submittals for any pumps or fans that are in series or parallel with other pumps or fans shall include compounded performance curves for analysis by the Commissioner.
  3. Submittals on electrical equipment shall be complete with all power and control wiring diagrams.
- G. Submit samples as directed of items called for in the specifications; samples of the materials which the manufacturer will actually ship shall be submitted for approval after award of contract and be properly labeled or identified.



- H. Submit a minimum of three (3) hard copies of all shop drawings and submittals for Engineer's review.

1.08 SHOP DRAWINGS

- A. Submit shop drawings to Commissioner for review in accordance with the requirements of the contract documents, and as specified in other sections of this specification.
- B. The Sheet Metal Contractor shall provide a reproducible shop drawing drawn to 3/8" scale for certification by all trades that coordination has been established. Conflicts and interferences shall be resolved prior to any erection and installation of equipment.
- C. When necessary to eliminate conflicts, the contractor shall revise shop drawings as required at no additional cost to the City of New York.

1.09 OPERATION, MAINTENANCE MANUALS AND INSTRUCTIONS

- A. Furnish to the Commissioner six (6) bound and indexed copies of the final approved installation, operations and maintenance manuals.
- B. Manual Contents:
  - 1. The manual shall provide comprehensive detailed information on the approved installation, operation and use, troubleshooting, parts list, lubrication and periodic maintenance schedule, together with the source of replacement parts and service for the items of equipment and the systems covered, including electrical equipment, devices and systems.
  - 2. Where items of equipment or system work in conjunction with one another, the interconnections shall be shown on a single sheet, folded out if necessary. A schematic wiring diagram and a description of operation shall be included.
  - 3. Where separate items of equipment specified herein are combined into a single self-contained unit, the drawings and required data shall treat such item of equipment in such self-contained unit as separate items. Referring to such self-contained unit as one item of equipment will not be acceptable.
  - 4. The manual shall also contain:
    - a. Equipment capacity (input and output).
    - b. Control data including calibration information, wiring diagrams, sequences of operation, schematics, desired and field determined



setpoints permanently recorded on the control drawings, and any comments related to field changes to programming.

- c. A complete written narrative of how each system is intended to operate.
5. All manufacturer maintenance requirements and schedule.
6. All manufacturer warranties.
- C. At the completion of the work, the Contractor shall instruct the employees who will have charge of the equipment in the care, adjustment and operation of each piece of equipment. Instruction shall be by competent representatives of the manufacturers involved with adequate time allowed for complete coverage of all owning and operating procedures.
- D. In addition, the Contractor shall leave with such employees printed instructions covering the operation and required maintenance of each particular piece of equipment and the Automatic Temperature Control System. Instructions shall be bound and titled and submitted to the Commissioner for approval. Submit six (6) sets.

#### 1.10 CODES AND STANDARDS

- A. Work performed under this Contract shall conform to all applicable laws, ordinances, regulations, construction codes, energy codes (state, local and federal), and shall be subject to control of public authorities having jurisdiction.
- B. Wherever requirements of such laws, codes, regulations differ from the drawings or specifications, they shall take precedence over the drawings specifications, and are expressly made part of the Contract, except where the drawings or specifications are more stringent or require better materials, which would also be acceptable to authorities (i.e., the more stringent code shall always apply).
- C. Any portion of work which is not subject to the approval of an authority having jurisdiction shall be provided in accordance with National Fire Protection Association requirements.
- D. Comply with applicable utility company rules and regulations.
- E. Comply with Occupational Safety and Health Act (OSHA) requirements.

#### 1.11 FEES AND PERMITS

- A. The Contractor shall secure all permits and pay all fees required by local and state governing bodies necessary to complete the construction. Failure to investigate all applicable payments before the bid submission shall not constitute grounds for additional monies from the City of New York. The City of New York shall be furnished with all certificates of approval.



1.12 INSPECTIONS, PROGRESS INSPECTIONS, SPECIAL INSPECTIONS AND TESTING

- A. New York City Building Code requires the City of New York to directly retain the services of an authorized testing agency to perform all required inspections, tests, progress inspections and special inspections as required by the Building Code. The Contractor shall provide all required support services required by the inspectors.
- B. Upon completion or partial completion of the permitted mechanical work, inspections, progress inspections, special inspections and tests shall be conducted by approved agencies or special inspectors qualified to conduct such inspections and tests. Inspections and progress inspections shall be performed in compliance with Section BC 109 of the New York City Building Code and Chapter 5000 of the New York City Energy Conservation Code (1 RCNY §5000-01). Special Inspections shall be performed in compliance with Sections BC 1704 and BC 1707 of the New York City Building Code for all mechanical systems regulated by the New York City Mechanical Code, Sections MC 107, MC 507, Chapters 10, 11 and 12. Refer to Article 116 of Chapter 1 of Title 28 of the Administrative Code for additional provisions related to inspections.

1.13 BOILER PLAN APPROVALS

- A. The complete installation of boilers, burners, fuel oil burning equipment, gas system, electrical work and all other items of work shall be in strict accordance with all laws and the latest rules and regulations of all municipal, Utility Company, and all other public agencies which have jurisdiction.
- B. The Contractor shall engage the services of a professional engineer registered in the State of New York who shall prepare and submit all plans and applications to the Department of Buildings and Division of Air Resources of the City of New York, the Utility Company and New York State Department of Environmental Conservation and shall obtain all required approvals. Sixty (60) days from the Letter of Award, the Contractor shall obtain all required work permits and approvals from the various agencies. The Contractor shall obtain re-approval of documents already submitted to, and approved to, and approved or in the process of approval, by the New York City Department of Buildings and Division of Air Resources and the New York State Department of Environmental Conservation. The Contractor shall be fully responsible to make all required modifications and to file all amendments.

1.14 GUARANTEE

- A. In addition to the requirements stated in the specifications, the Contractor must guarantee all equipment, materials and appurtenances installed by him to be free from all defects. Upon written notice from the Commissioner, the Contractor shall promptly correct all defects without additional cost to the City of New



York. The Contractor must make good, at his own expense, any defects in materials or workmanship that may appear. The guarantee period shall be from one (1) year after final inspection and acceptance of the project.

## **PART 2- PRODUCTS**

### **2.01 PRODUCT HANDLING**

- A. In addition to the requirements of the General Conditions, the Contractor shall be responsible for the following:
  - 1. Responsibility for care and protection of mechanical work rests with the Contractor until it has been tested and accepted.
  - 2. After delivery, before, during and after installation, protect equipment and materials against theft, injury and damage for all causes.
  - 3. Coat polished or plated metal part with Vaseline immediately after installation.
  - 4. Protect equipment outlets and pipe, openings with caps.
- B. Insulation and acoustic material within air handling equipment, fan coil units, VAV boxes, ductwork, etc. can absorb damaging moisture and become soiled when shipped and if left outdoors prior to being installed. Absorbed moisture can foster biological growth and can lead to indoor air quality problems at a later date. To minimize damage all such equipment shall be shrink-wrapped prior to shipment from the factory. The shrink-wrap shall only be removed once the units have been move into enclosed spaces within the building.
- C. The Contractor shall receive, properly house, handle, hoist, deliver to proper location, equipment and other materials required for the contract.
- D. In the event of damage, immediately make all repairs and replacements necessary for the approval of the Commissioner and at no additional cost to the City of New York.

### **2.02 MATERIALS**

- A. Design:
  - 1. Unless otherwise specified, equipment or material of same type or classification, used for the same purpose, shall be products of the same manufacturer. All material shall be new and of the latest design of manufacturer providing equipment or materials.
  - 2. Equipment and accessories not specifically described or identified by manufacturer's catalog numbers shall be designed in conformity with



ASME, or other applicable technical standards, suitable for maximum working pressure and shall have neat and finished appearance.

B. Electrical Characteristics:

1. It shall be the responsibility of this Contractor to ensure that the voltage and current characteristics of the electrical equipment furnished by him shall be suitable for the electrical services as specified.

C. Lubricating Devices:

1. Provide oil level gauges, grease cups, grease gun fittings for machinery bearings as recommended by machinery manufacturer; where lubricating means are not easily accessible, extend to accessible, extend to accessible locations. Furnish all grease gun fittings of uniform type.

D. Belt Guards:

1. Provide guards to enclose belts, pulleys, sheaves or belt-driven equipment. Construct of galvanized expanded or perforated sheet steel, or 1" mesh wire screen in angle frame with steel angle or channel mounting supports; make guard easily removable for access to belt, pulley or sheave. Conform to codes or regulations of agencies having jurisdiction. Provide access holes for tachometers.

### **PART 3 – EXECUTION**

#### **3.01 SUPERVISION**

- A. All work shall be performed by competent mechanics under supervision of an experienced erection supervisor. The Contractor shall, upon initiation of construction, keep a suitable force of men (including supervisory personnel) on the site at all times in order to place all sleeves, inserts, outlet boxes and fixtures, and provide all other openings as are required for the satisfactory installation of equipment.

#### **3.02 COORDINATION**

- A. Contractor's attention is directed to scheduling of construction and time limitations for each phase of the work. Work shall be coordinated to permit proper setting of the work of other trades.
- B. Where piping work and appurtenances are in place prior to completion of adjacent concrete and masonry work, they must be protected against damage and displacement until construction is completed.

#### **3.03 CUTTING AND PATCHING**



- A. All cutting and patching associated with the installation of the HVAC work is the responsibility of the Contractor.
- B. No cutting of bearing walls, beams, etc. shall be done without the approval of the Commissioner. All materials, patching and finishing, etc. shall match the surroundings. All cutting and patching shall be done by workman skilled in the trades and in the employ of the Contractor for the project. All cutting shall be done with the saw-type edges to give a neat and workmanlike appearance. All pipe holes shall be core drilled unless specified otherwise.

#### 3.04 TEMPORARY OPENINGS

- A. All necessary temporary openings not indicated which may be required for purpose of bringing equipment into building shall be provided as required subject to the approval of the Commissioner. The Contractor shall perform work of providing and maintaining openings and of restoring structure.
- B. Holes provided in General Construction work to permit installation of lines for temporary mechanical services shall, after removal of such lines, be patched as specified.

#### 3.05 CLEAN-UP

- A. The Contractor shall be held responsible for the general clean-up of all areas affected by the work in the Contract. All rubbish and accumulative material shall be removed from the premises and the premises left "broom clean" upon completion.

#### 3.06 CLEARANCE FROM ELECTRICAL EQUIPMENT

- A. Piping or Ductwork is prohibited in all electric rooms and closets, telephone rooms and closets, and elevator machine rooms.
- B. Where transformers, switchboards, motor control centers, electric panels, motor starters, and variable speed drives are located in spaces other than those identified in paragraph A above, a minimum of 3 feet clearance to any equipment, ductwork or piping shall be maintained in front of all low voltage equipment (208 volts or less) and 3-1/2 feet in front of all high voltage equipment (460 volts). This work space shall extend from the floor to the height of the equipment, but not less than 6 1/2' above floor. The width of the workspace shall equal the equipment width but not less than 30".
- C. Where transformers, switchboards, motor control centers, electric panels, motor starters, and variable speed drives are located in spaces other than those identified in paragraph A above, no piping or ductwork shall be permitted up to the slab above the equipment footprint.

#### 3.07 TESTING, ADJUSTING AND BALANCING



- A. Make all required adjustments to air or hydronic system devices until all specified performances are met. Prior to testing clean and comb all coils as required. Before commencement of construction, test existing equipment to establish output, etc. Submit certified reports indicating outlet cfm, motor and compressor amperage draw, rpm, static pressure, outdoor temperature at time of test, return air, mixed air, discharge air and setting of all controllers.
- B. Air and water system balancing shall be performed by an organization specializing in system balancing and procedures having at least three (3) years experience and shall be AABC (Associated Air Balancing Council) or NEBB certified or approved equal agency.

### 3.08 SUPPORTS, HOUSEKEEPING PADS AND STANDS

- A. Where supports, stands and suspended platforms for machinery, tanks or other equipment are indicated or specified in mechanical work sections, perform as follows:
  - 1. Design and construct supporting structures of strength to safely withstand stresses to which they may be subjected, and to distribute properly the load and impact over building areas. Conform to applicable technical societies' standards, also to codes and regulations of agencies having jurisdiction.
  - 2. Locate supports for tanks so as to avoid undue strain on shell and interference with pipe connections to tank outlets.
  - 3. For tanks containing tubes, check support locations for clearances to pull tubes.
  - 4. Mount power-driven equipment on common base with driver, unless otherwise indicated, specified or approved.
  - 5. Submit detailed shop drawings of all supports; obtain approval before fabricating and constructing.
  - 6. Roof-mounted equipment shall be on prefabricated curbs unless indicated otherwise. Curbs for use with air intakes and relief or exhaust shall be of the insulated double shell type (refer to equipment sections). Equipment mounting rails shall be fabricated of 12 gauge, all welded, galvanized steel. Rails shall be 10" high with bottom raised cant, 2" x 4" treated wood nailer on top and a galvanized counterflashing cap. Rails shall be of adequate strength to handle the equipment weight.
- B. Housekeeping Pads:
  - 1. Provide concrete housekeeping pads for all floor mounted equipment. Use concrete mix reinforcement where required.





- a. Where floor is water proofed, construct foundation so that anchor bolts will not pierce waterproofing.
- b. Finished exposed parts of foundation with cement mortar; fill voids, trowel smooth, bevel edges and corners to make neat appearances; use cement hardener; paint to match finished floor.
- c. Unless indicated otherwise provide housekeeping pads for all floor-mounting equipment. Pad dimensions, size of foundation bolts, methods of setting, aligning and anchoring of equipment shall be as recommended by manufacturer of equipment and as approved. Make minimum height above finished floor 4" and extend outer edges 2" minimum beyond machinery bed-plate. Submit shop drawings for approval.
- d. For machinery on pad, provide foundation bolts, sleeves, washers, nuts and templates to locate position on bolts. Make sleeves of steel pipe; finish flush with top of rough concrete. For anchorage, make embedded end of bolts hooked, or threaded with nut and square plate.
- e. Provide 1" thick grouting between machinery base plate and concrete pad; fill completely the space between them. Clean top of pad; wet if before grouting. Do not remove leveling wedges before grout reaches its final set. Fill voids left by removal of wedges with grout to make neat appearance.

C. Floor Stands:

1. Unless otherwise indicated, where equipment is indicated or specified to floor mounted on stands or legs, construct of structural steel members or steel pipe and fittings; brace and fasten with flanges bolted to floor.

D. Suspension Support for Ducts, Pipes, Equipment:

1. Unless otherwise indicated, all pipes, ducts and equipment that are suspended shall be connected directly to the building steel. Where hangers are required between building steel points, supplementary steel members shall be added by the Contractor as required to adequately support the load.
2. Pipes or ducts shall not be supported from other pipes, ducts or equipment.

3.09 IDENTIFICATIONS

A. Piping System:



1. All piping systems shall be identified by the name of contents and the direction of flow in accordance with ANSI A13.1 (1981).
  2. Name of contents and directional arrows shall be placed near each valve, on both sides of pipes passing through walls, on long pipe runs at 30-foot intervals.
  3. Names of contents and directional arrows shall be laminated in plastic and wraparound pipe marker as manufactured by Seton Nameplate Co., or approved equal.
- B. Equipment:
1. All items of mechanical equipment such as fans, pumps, air handlers shall be identified by approved nameplates by Contractor furnishing equipment.
  2. Nameplates shall be securely affixed to each individual piece of equipment and also to controls for that equipment.
  3. Nameplates shall be aluminum 2 1/2" x 3/4 with black enamel background etched or engraved natural aluminum lettering. Manufacturer shall be Seton Nameplate Company or approved equal.
  4. Equipment shall be identified as to its type and unit number.
- C. Valves:
1. Identify valves and other parts of mechanical systems by means of polished and lacquered brass or aluminum tags, minimum 1 1/2" round or octagonal, with stamped letters and number 1/2" high and filled with black paint. Tag must bear name of particular mechanical system involved and identifying number.
- D. Charts:
1. Charts of valves including valve identification number, location and purpose shall be furnished in duplicate.
  2. Charts of piping system identification shall be furnished in duplicate. Charts shall include the following:
    - a. Service
    - b. Color field
    - c. Legend
    - d. Color of letters



3. One (1) copy of each chart shall be mounted in a wood frame with clear glass front, and secured to wall, as directed.
4. Second chart shall be prepared for use in location as directed, provided with approved transparent plastic enclosure for permanent protection. Two (2) holes shall be furnished at top of plastic enclosure to allow for affixing an 8" length of nickel-plated bead chin. Each hole to be reinforced by a small brass or nickel grommet. Plastic enclosures as furnished by Seton Nameplate Company, Brimar Industries Inc., Kolbi Pipemarket Co. or approved equal.

### 3.10 FIRE-STOP PROTECTION

- A. Where pipes and conduit pass through fire partitions, fire walls or floors, install a firestop that provides an effective barrier against the spread of fire, smoke and gases. Fire-stop material shall be packed tight, and completely fill clearances between pipe and sleeves. Provide escutcheon plates on both sides of all rated construction.
- B. Fire-stopping material shall maintain its dimension and integrity while preventing the passage of flame, smoke and gases. Fire-stopping material shall be non-combustible as defined by ASTM E136.

### 3.11 ACCESS PANELS

- A. The Contractor shall furnish access panels for the installation by the Contractor for General Construction for concealed valves, expansion joints, valves, traps, strainers, dampers and other parts requiring accessibility for operation and maintenance.
- B. Access panel size shall be as indicated; when not indicated, make 18" x 18" minimum or larger as directed or required.
- C. Frames shall be 16 gauge steel.
- D. Access panels for use on masonry, tile, drywall shall have frames with flanges to hide rough openings in walls. Style M as manufactured by Milcor, or approved equal.
- E. When access panels or doors are installed in fire-rated construction they shall be fire rated to match the construction.

### 3.12 DEMOLITION, REMOVALS AND ALTERATIONS

- A. All existing equipment, ductwork, piping, controls, supports, accessories, etc., shall be removed unless otherwise indicated, required for the operation of equipment or systems to remain, or required for continuity of service to areas outside the work scope.



1. If the Contractor is unclear as to what must be removed, he shall notify the Commissioner prior to demolition.
- B. Modify existing equipment and/or systems as required by the drawings or specifications and as may be required when such work is uncovered and found to interfere with the completion of work in this contract or other contract work.
- C. Remove all demolition material from the project site.

3.13 ELECTRICAL WIRING DIAGRAMS

- A. Electrical wiring for automatic temperature, safety and interlocking controls for motors, motor starters and other electrical apparatus and devices shall be provided by this Contractor, except for wiring of fractional horsepower fan motors which shall be by the Electrical Contractor. Power wiring will be under another Division.
- B. Prepare and submit for approval terminal point to terminal point completely coordinated and integrated wiring diagrams for all wiring.
- C. Submit specific wiring diagrams or factory-installed equipment wiring.

**END OF SECTION 230500**



## SECTION 230513

### COMMON MOTOR REQUIREMENTS FOR HVAC

#### PART 1- GENERAL

##### 1.01 GENERAL REQUIREMENTS

- A. Work of this Section, as shown or specified, shall be in accordance with the requirements of the Contract Documents.
- B. 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]

##### 1.02 WORK INCLUDED

- A. Work of this Section includes all labor, materials, equipment and services necessary to complete the Electric Motors, Motor Controllers as shown on the drawings and as specified herein, including but not limited to the following:
  - 1. Furnish and install motors required for mechanical equipment.
  - 2. Furnish motor starters required for mechanical equipment.
  - 3. Coordination of the installation of motors and starters.
  - 4. Motor control devices required for mechanical equipment.
  - 5. All control wiring other than power wiring.

##### 1.03 RELATED WORK

- A. HVAC equipment.
- B. Automatic Temperature Controls.
- C. Electrical specifications for installation of motor starters and power wiring.

##### 1.04 QUALITY ASSURANCE

- A. NEMA
- B. New York City Electrical Code



C. IEEC

1.05 SUBMITTALS

A. Shop Drawings:

1. Wiring diagrams of all manufactured equipment.
2. Electrical equipment terminal-to-terminal point connections.
3. Elementary diagrams.
4. Integrated and coordinate wiring for automatic temperature, safety and interlocking controls for motor starters and motor actuating and actuated devices.

1.06 DEFINITIONS

- A. Power Wiring (Motor Power Circuit): Power circuit operating at 120 volts or more, and carries electrical input energy to starter and from starter to motor.
- B. Control Wiring (Motor Control Circuit): Other than power wiring, all other wiring intended for directing or indicating the performance of a motor starter, including connections to actuating and actuated devices.
- C. Motor Actuating Device: Any device performing a switching function in a motor control circuit (i.e., pushbuttons, hand-off-automatic switches, automatic contacting devices, time clocks, etc.).
- D. Motor Actuated Device: Any device which functions in response to voltage received from a motor control circuit (i.e., pilot lights, solenoids, PE, EP, damper motors, etc.).

**PART 2- MATERIALS**

2.01 MOTORS

A. General:

1. Motors shall be of proper power and speed to suit the specified makes of equipment. If other makes of equipment (other than specified) are accepted, the proper adjustment of motor speed and power must be included without additional cost. Sizes and types shall be submitted for approval before the equipment is purchased.



2. Motors shall be open dripproof, squirrel cage induction motors rated at 1,750 rpm or 3,500 rpm, as scheduled. Where motors are multi-speed, speeds shall be as scheduled.
3. Motors voltage shall be as scheduled.
4. Unless otherwise specified, motors shall be suitable for operation in either direction of rotation.
5. Unless otherwise indicated, motors shall have a service factor of 1.15.
6. Motors, shall be built in accordance with current NEMA standards (MG-1), except as noted in these specifications.
7. Motors shall be NEMA Design B unless otherwise noted.
8. Fractional horsepower motors less than ½ HP shall be 120 volt, single phase, 60 Hz. Motors ½ HP and above shall be 60 Hz, three phase with voltage as scheduled.

B. Insulation

1. Insulation system employed shall have been tested by the manufacturer and will be Class H (180°C).
2. Temperature rise shall be in accordance with NEMA limits for the Class of Insulation, Service Factor and Enclosure specified.
3. Unless noted otherwise, motors will be rated for 40 degrees C ambient operation.

C. Mechanical:

1. Motors shall be built in NEMA standard T-Frame sizes.
2. Dripproof and totally-enclosed motor frames will be of rugged construction and material will be steel, aluminum or cast iron.
3. End bracket will be of cast iron or aluminum construction and aluminum must have steel inserts in the bearing relubrication.
4. Bearings will be anti-friction type and bearing housings will be equipped with plugged provision for relubrication.



5. Bearings will be rated for minimum L-10 life of 20,000 hours assuming bearing load to be calculated with a NEMA minimum V-belt pulley, so located that the center line of the belt load will be located at the end of the NEMA standard shaft extension.

D. Premium Efficiency Motors:

1. Provide premium efficiency electric motors for all polyphase dripproof and totally enclosed motors 1 HP and above. Motor shall have a standard product of an approved motor manufacturer and shall have the following minimum guaranteed full load efficiencies at 1,750 rpm. Submit certification of motor efficiency with equipment shop drawings. Motors for different rpm's shall be of same construction and comparable efficiency at 1,750 rpm motors. Minimum efficiency's shall be as follows:

OPEN DRIP - PROOF (ODP)			
Motor Size (HP)	Speed (RPM)		
	1200	1800	3600
NEMA Nominal Efficiency			
1	82.5%	82.5%	77.0%
1.5	86.5%	86.5%	84.0%
2	87.5%	87.5%	85.5%
3	88.5%	89.5%	85.5%
5	89.5%	89.5%	86.5%





TOTAL ENCLOSED FAN-COOLED (TEFC)			
Motor Size (HP)	Speed (RPM)		
	1200	1800	3600
	NEMA Nominal Efficiency		
1	82.5%	85.5%	77.0%
1.5	87.5%	86.5%	84.0%
2	88.5%	86.5%	85.5%
3	89.5%	89.5%	86.5%
5	89.5%	89.5%	88.5%

E. Noise Levels:

1. Sound power levels for all motors will be no greater than the guidelines recommended by NEMA (MGI-12.49).

F. Tests and Test Data:

1. Motors will be 100% production tested and quality control checked to assure compliance with this specification.
2. The insulation system will be tested by procedure outlined in NEMA MGI-12.03.
3. A load test will be performed on each motor to assure compliance with the energy-efficient section of this specification.
4. Typical test data on each motor will be available if requested.

2.02 MOTOR STARTERS

A. Fractional Horsepower Starters for Motors less than 1/2 HP:

1. Thermal overload relay with field adjustment capability.
2. NEMA 1 general purpose enclosure with flush mounted enclosure and plate.
3. Quick-mate, quick-break mechanism.



4. Pilot light indicating activation.
  5. Speed control, where indicated.
  6. Magnetic starter type with HOA switch where required to be automatically controlled by a motor actuating device.
- B. Starter for Motors  $\frac{1}{2}$  HP and Above:
1. Combination magnetic starter with unfused, disconnect switch, unless indicated to be fused, or of the circuit breaker type.
  2. Provide an individually fused transformer to permit external control circuit operation at a nominal voltage of 120 volts. Ground unfused secondary wire.
  3. Provide NEMA I Class A enclosure with running overload relay and disconnect for each pole.
  4. Size fusible switch gaps for time delay type fusing. For combination circuit breaker. Provide ambient compensating features extending to 50°C.
  5. Magnetic Starters NEMA Size 3 and Larger: Equipped with an auxiliary control circuit relay arranged to permit the actuation of the starter without introducing holding coil currents into the external control circuit.
  6. Magnetic Starters NEMA Size 5 and Larger, Intended to Operate at a Power Circuit Voltage in Excess of 250 Volts Line-to-Line: Equipped with an integral phase failure protection relay system.
  7. Equip starter with a low voltage, manual reset "lockout" relay arranged to open the main holding coil circuit following a loss of line voltage, and then to maintain it open (pending manual reset) regardless of maintained contact features (if any) in the external control circuit.
  8. Covers and Combination Starters: Suitably hinged and interlocked with the handle of the disconnect means to prevent opening when the handle is in closed position.
  9. Combination Type Motor Starters: Equipped with approved padlock and key and a means for padlocking its manual line disconnect in the open position.



10. Motor Starters: Equipped with an engraved lamicoid nameplate permanently fastened on the outside of the starter cover, with high white lettering on a black background identifying the motor and system controlled.
11. In addition to auxiliary contacts required for interlocking or indicating purposes, provide magnetic starters with one normally closed and one normally open additional contacts for future use.
12. Enclosure Sizes and Wiring Terminals of Motor Starters: Suitable for the application of copper power and control circuit wires.
13. Motor Starters which are not part of Packaged Equipment: One manufacturer throughout the project.
14. Wire all starter control wires for external connection including spare auxiliary contacts to terminal blocks. Each terminal block point be identified with unique number shown also on submitted wiring diagrams.

#### 2.03 APPROVED MANUFACTURERS

- A. Motors: Badlor Premium Efficiency Super-E Motor, Lincoln, Gould, Century General Electric, Westinghouse, or approved equal.
- B. Starters: Cutler-Hammer, Siemens, Square D, Allen-Bradley or approved equal.

### **PART 3 – EXECUTION**

#### 3.01 INSTALLATION

- A. Coordinate with other work described under “Related Work”.
- B. Comply with the requirements of the New York City Electrical Code for the control wiring work.
- C. Install in accordance with the equipment manufacturer’s instructions.
- D. Provide all control and interlock wiring for all provided HVAC equipment.

**END OF SECTION 230513**



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## SECTION 230548

### VIBRATION AND SEISMIC CONTROL FOR HVAC

#### PART 1 – GENERAL

##### 1.01 GENERAL REQUIREMENTS

- A. Work of this Section, as shown or specified, shall be in accordance with the requirements of the Contract Documents.
- B. 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]\

##### 1.02 WORK INCLUDED

- A. Work of this Section includes all labor, materials, equipment and services necessary to complete the Vibration Control Work as shown on the drawings and specified herein, including, but not limited to, the following:
  - 1. Boilers.
  - 2. Pumps.

##### 1.03 RELATED WORK

- A. HVAC Equipment.
- B. Piping and Accessories.
- C. Sheet Metal Ductwork.

##### 1.04 QUALITY ASSURANCE

- A. SMACNA, ASHRAE, NFPA.
- B. New York City Building Code and New York City Mechanical Code.



## 1.05 SUBMITTALS

- A. Furnish shop drawings adequate concrete reinforcing steel details and templates for all concrete foundations and supports, and all required hanger bolts and other appurtenances necessary for the proper installation of equipment.
- B. Include in the vibration isolation equipment submittal drawings the following information:
  - 1. Isolation mounting deflections.
  - 2. Spring diameters, compressed spring heights at rated load; solid spring heights, where steel spring isolation mountings are used.
  - 3. Equipment operating speed.
- C. Product Data: Manufacturer's printed data, test reports, catalog cuts and recommended method of installation.

## PART 2 – PRODUCTS

### 2.01 GENERAL

- A. For the purpose of establishing design and quality, products are identified by several manufacturer's names and catalog numbers. The equivalent items of other manufacturers will be accepted, as approved by the Commissioner. Approved manufacturers are as follows:
  - 1. Sound and Vibration Isolation:

a.	Mason Industries, Inc.	-	M.I.I.
b.	Vibration Eliminator Co.	-	V.E.C.
c.	Vibration Mountings & Controls, Inc.	-	V.M.C.I.
d.	Consolidated Kinetics Co.	-	C.K.C.
e.	Korfund Dynamics Co.	-	K.D.C.
f.	Amber Booth	-	A.B.
- B. Mounting Sizes: Determined by the mounting manufacturer.
- C. Mounting systems, including piping isolator components of the isolation mounting, shall not be resonant with the forcing frequencies of the supported equipment or supporting structure.



- D. Where equipment is located outdoors, vibration isolation equipment shall be weatherproof as required for operation in an exposed environment.
- E. See specification and schedules for deflection and mounting type number.

2.02 MOUNTING OF IN-LINE PUMPS, MOUNTING TYPE 6 – NEOPRENE-IN-SHEAR ISOLATORS

- A. Hang all such units by means of neoprene-in-shear isolator hangers consisting of a steel housing or retainer.
- B. If the equipment to be mounted is not furnished with integral structural frames and external mounting lugs (both of suitable strength and rigidity), install approved structural subbase in the field which will support the equipment to be hung and to which will be attached the hangers.
- C. Isolators to be one of the following, or as approved:
  - Type HD - M.I.I.
  - Type RHD - V.M.C.I.
  - Type CD - V.E.C.
- D. Provide thrust restraints on the discharge of all fans with a total static pressure of 2" and greater. Restraints shall be Mason Type WBD or approved equal.

2.03 MOUNTING OF CENTRIFUGAL PUMPS (3 HP OR LESS) – MOUNTING TYPE 8 – NEOPRENE-IN-SHEAR ISOLATORS

- A. Pumps 3 HP or less to be bolted and grouted to neoprene-in-shear supported reinforced concrete inertia blocks that are a minimum of 6" thick. Rubber-in-shear isolators to provide a minimum static deflection of 3/8" and be protected against corrosion. Mountings:
  - Type KND - M.I.I.
  - Type WPF/RD - V.M.C.I.



2.04 MOUNTING OF BOILERS – MOUNTING TYPE 14

- A. Mount each boiler directly on bare steel spring mountings located under the boiler mounting legs. Mounting to incorporate leveling device, resilient vertical limit stops to prevent spring extension when partial load is removed and two layers of neoprene acoustical base pad, each separated by 16 gauge sheet metal. The mountings to be capable of providing rigid support during boiler erection at a fixed elevation, then transfer the loads onto the springs by means of the leveling bolt. Limit stops to be out of contact with the mounting housing normal operation.
- B. Mounting to be selected for minimum 1" static deflection and be one of the following, or as approved:
- |           |   |          |
|-----------|---|----------|
| Type SLRS | - | M.I.I.   |
| Type AWR  | - | V.M.C.I. |
| Type KW   | - | V.E.C.   |

2.05 SUPPORT OF PIPING IN EQUIPMENT ROOMS AND WHERE EXPOSED ON ROOF

- A. All water piping and piping within 50 feet of connected rotating equipment to be resiliently sprung and neoprene supported with mountings providing a minimum deflection of 7/8" for all piping. The spring elements for the pipe hanger mountings to have a natural frequency of no less than 360 HZ.
- B. Provide factory pre-compressed hanger rod isolators for water piping greater than 12" diameter and supplementary steel supports. Pre-compressors to be set for 75% of design rated deflection in the spring element of the hanger rod isolators.
- C. Hanger rod isolators to be one of the following, or as approved, mountings:
- |          |   |          |
|----------|---|----------|
| Type 30N | - | M.I.I.   |
| Type RSH | - | V.M.C.I. |
| Type DVC | - | V.E.C.   |
- D. Floor and roof supported piping isolators to be one of the following, or as approved, mountings:
- |           |   |          |
|-----------|---|----------|
| Type SLRS | - | M.I.I.   |
| Type AWR  | - | V.M.C.I. |
| Type KW   | - | V.E.C.   |





2.06 WATER PIPING

- A. Pipe riser guides, anchors and supports to be located so that there will be no direct metal contact of the piping with the building structure.

2.07 PIPING GUIDES

- A. Weld steel guide bars to the pipe at a maximum spacing of 60°. The outside diameter of the opposing guide bars to be smaller than the inside diameter of the pipe riser clamp in accordance with standard field construction practice. Each end of the pipe anchor isolation mounting, which in turn will be rigidly fastened to the steel framing within the shaft.
- B. The all-directional pipe anchor isolation mountings to consist of a telescoping arrangement of two sizes of steel tubing separated by a minimum of 1/2" thick heavy duty neoprene and canvas duck isolation pad. Provide vertical restraints by similar material arranged to prevent vertical travel in either direction; the allowable load on the isolation material not to exceed 500 psi.
- C. Mountings to be Type ADA (Guide) – M.I.I. or approved equal.
- D. Construct low temperature piping guides with a 360°, 10 gauge metal sleeve around the piping. Provide the thermal insulation requirements for the piping between the piping and sleeve. Heavy duty neoprene and canvas duck isolation pad of thickness equal to thermal insulation requirements to space the metal sleeve away from the piping with urethane or other suitable sleeve and isolation pad material. The metal sleeve outside diameter to be smaller than the pipe riser clamp inside diameter in accordance with standard field construction practice. The pipe riser clamp to be rigidly attached to the steel framing within the shaft.

2.08 ANCHORS

- A. Weld the pipe riser clamp at anchor points to the pipe and to pairs of vertical acoustical pipe anchor mountings, which in turn will be rigidly fastened to the steel framing in the pipe shaft.
- B. The acoustical pipe anchor mountings to be capable of safely supporting loads developed by the installed piping and consisting of a bolted assembly of steel plates with laminations of 1/2" thick heavy duty neoprene and canvas duck isolation material. Provide a heat shield of 1/4" mineral fiber as required; the isolation material loading not to exceed 500 psi.
- C. Acoustical pipe anchor mountings to be Type ADA (Anchor) – M.I.I. or approved equal.



## 2.09 SUPPORTS

- A. Provide piping supports within shafts with suitable bearing plates and two layers of 1/4" thick ribbed or waffled neoprene pad loaded for 50 psi maximum. Separate the isolation pads with 1/4" steel plate.
- B. The isolation pads to be one of the following, or as approved:
  - Type W - M.I.I.
  - Type Shearflex - V.M.C.I.
  - Type 200 N - V.E.C.

## 2.10 PIPING PENETRATION OF SHAFTS, FLOOR SLABS AND/OR PARTITIONS

- A. Direct contact of piping with shaft walls, floor slabs and/or partition is not permitted. For gaps 1" and less sleeve all uninsulated piping with 1" fiberglass the full depth of the penetration. Gaps larger than 1" shall be filled with heavy-density putty such as Nelson FSP or CLK Sealant, J.M. Clipper "Duxseal" or 3M "Moldable Putty".

## PART 3 - EXECUTION

### 3.01 GENERAL

- A. All equipment, piping, etc. to be mounted on or suspended from approved foundations and supports, all as specified herein, as shown on the drawings, or as required.
- B. All concrete foundations, bases, forms, inertia blocks, supports and associated reinforcing shall be provided by the Contractor unless indicated other wise on the drawings.
- C. Erect all floor mounted equipment on 4" high concrete pads over the complete floor area of the equipment, unless specified to the contrary herein. Wherever hereinafter vibration eliminating devices and/or concrete inertia blocks are specified, these items to be in turn mounted upon 4" high concrete pads unless otherwise specified to the contrary herein.
- D. Guarantee the vibration isolation systems to have the required deflection. Mounting systems and components of the isolation mounting not to be resonant with any of the forcing frequencies of the supported equipment or piping. Mounting sizes to be determined by the mounting manufacturer, and the sizes installed in accordance with the manufacturer's instructions.



- E. The installed vibration isolation system for each floor or ceiling supported equipment to have a maximum lateral motion under equipment start-up or shutdown conditions of 1/4". Motions in excess to be restrained by approved spring type mountings.
- F. During equipment installation, floor supported spring isolation bases to be set on 2" spacers between the isolation base and housekeeping pad. After all connection (pipe, duct and conduit) have been made to the equipment and the system filled, the spacers to be removed without change of equipment elevation or transfer of stress to the equipment.
- G. Provide mountings incorporating vertical limit stops with 1/4" spacers. The mountings to serve as blocking during installation. Adjust mountings and remove spacers after equipment operating loads.
- H. Protect all mounting systems exposed to weather and other corrosive environments with factory corrosion resistance. All metal parts of mounting (except springs and hardware) to be hot dip galvanized. Springs to be cadmium plated and neoprene coated. Nuts and bolts to be cadmium plated.
- I. Where steel spring isolation systems are described above the mounting assemblies to utilize bare springs with the spring diameter not less than 0.8 of the loaded operating height of the spring. Each spring isolator to be designed and installed so that the ends of the spring remain parallel during and after the spring specified minimum deflection from loaded operating height to spring solid height of 50% of the rated deflection.
- J. Provide, as shown or as approved, all necessary supports for equipment furnished under this specification. To meet the varying conditions in each case, these supports to consist of pipestands, steel angle or strap hangers, saddles, brackets, etc., as shown or as approved. All such supports to have substantial flanges, bolted to floor construction; hangers to be supported from framing as described herein. Supports to be properly located with reference to any supporting pads, legs, etc., of the equipment carried and must be of such number and so distributed as not to bring any undue strains upon the equipment. All details to be as approved.
- K. Provide suitable brackets, pipestands, piers or other supports for all coils, air filters, mixing and control dampers, etc., securely clamped to steel beams, columns or bearing walls. All details of the work to be shown on the drawings or as approved.



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- L. Guarantee that the work as installed under this section of the specifications will not result in the transmission of objectionable noise or vibration to any occupied parts of the building, and take full responsibility for any necessary modifications of this equipment, or of the foundations and supports for the same, necessary to secure this result. Any corrective work required to accomplish the above will be borne at the sole cost and expense of this Contractor.
- M. Provide all required supplementary steel for the suspension and support of piping, ductwork, equipment and all other mechanical work.

**END OF SECTION 230548**



## SECTION 230593

### TESTING, ADJUSTING AND BALANCING FOR HVAC

#### PART 1 - GENERAL

##### 1.01 GENERAL REQUIREMENTS

- A. Work of this Section, as shown or specified, shall be in accordance with the requirements of the Contract Documents.
- B. 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]

##### 1.02 WORK INCLUDED

- A. Work of this Section includes all labor, materials, equipment, connections and services necessary to complete the Preliminary and Final Testing and Balancing Work as shown on the drawings and specified herein, including, but not limited to, the following:
  - 1. Hot Water System.
- B. Tests:
  - 1. Perform as noted and in presence of Commissioner and authorities having jurisdiction.
  - 2. Submit Preliminary and Final results for review.
  - 3. Repair or replace defective work, as directed.
  - 4. Pay for restoring or replacing damaged work due to tests, as directed.
- C. Balancing:
  - 1. Balancing and testing of all systems shall be performed and supervised by an independent firm specializing in testing and balancing. Firm must be a member of AABC (American Air Balance Council) or NEBB or approved equal agency.
  - 2. Work to be performed by qualified technicians under supervision of skilled and experienced specialist engineers.



- D. Permanently mark setting of all valves, dampers and other adjustment devices in a manner that will allow the settings to be restored. If a balancing device is provided with a memory stop, it shall be set and locked.

1.03 QUALITY ASSURANCE

A. Applicable Standards:

- 1. National Standards for Total System Balance (American Air Balance Council) or NEBB.
- 2. ASHRAE
- 3. Or approved equal agency

1.04 SUBMITTALS

- A. Six (6) copies of the Preliminary and Final balancing report shall be submitted and included in operating and maintenance instructions.
- B. Report forms (AABC or NEBB type) or approved equal agency.
- C. Methods of balancing and details of instruments used.
- D. Copies of air velocity and pressure readings.
- E. Sketches bound in folder showing where readings were taken.

**PART 2- PRODUCTS**

NOT APPLICABLE

**PART 3 - EXECUTION**

3.01 WORK PERFORMED PRIOR TO TESTING AND BALANCING

- A. The Contractor is responsible for start-up and operation of systems during total system balance. Start-up shall include the following:
  - 1. All equipment shall be operable in safe and normal condition.
  - 2. Temperature control systems installed complete and operable.
  - 3. Proper thermal overload protection in place for electrical equipment.



4. Water Systems:
  - a. Flushed, filled and ventilated.
  - b. Correct pump rotation.
  - c. Proper strainer baskets clean and in place.
  - d. Temporary start-up strainer baskets removed.
  - e. Service and balance valves open.
5. The Contractor shall return to the job site during the warranty period and adjust and re-balance air outlets as necessary as directed by the City of New York and the Commissioner to improve comfort conditions in certain areas.
6. The Contractor shall allow for three visits back to the job site to make adjustment and shall be prepared to adjust up to 5% of all the air outlets on the project.
7. At the end of the warranty period the Contractor shall re-issue the final air balancing report with all of the adjustments recorded.

3.02 PRELIMINARY WATER SYSTEMS BALANCING

- A. Balance and adjust water systems in accordance with the AABC Manual.
  1. Examine system and position valves and cocks in their required open or closed position.
  2. Make all requirements as required to balance system and equipment. Submit report indicating GPM to all risers and equipment. Report shall indicate performance characteristics for pumps including total GPM, total dynamic head and actual motor amps.
  3. Or approved equal agency.
- B. Mark valve tag of each valve or cock used for balancing to indicate position of valve stem.
- C. Prepare a list of all leaks or defects, inoperational devices and all system deficiencies which affect the balancing of all water systems and submit to Commissioner for action prior to final balancing.



### 3.03 FINAL WATER SYSTEMS BALANCING

- A. Provide final balancing and adjustments to water systems after Contractor corrects all deficiencies. Final balancing shall incorporate all Commissioner comments on Preliminary Balancing Report.
  - 1. Make all final adjustments as required to balance system and equipment. Submit report indicating final GPM to all risers and equipment. Report shall indicate final performance characteristics for pumps including total GPM, total dynamic head and actual motor amps.
- B. Mark valve tag of each valve or cock used for balancing to indicate position of valve stem.

### 3.04 WATER SYSTEMS

- A. Balance and adjust water systems in accordance with the AABC Manual.
  - 1. Examine system and position valves and cocks in their required open or closed position.
  - 2. Make all adjustments as required to balance system and equipment. Submit report indicating GPM to all risers and equipment. Report shall indicate performance characteristics for pumps including total GPM, total dynamic head and actual motor amps.
- B. Mark valve tag of each valve or cock used for balancing to indicate position of valve stem.
- C. Make repairs to all leaks or defects without additional cost to the City of New York.

### 3.05 TESTING OF AUTOMATIC CONTROLS

- A. In cooperation with the control manufacturer's representative, adjust controls to operate as specified. Testing personnel shall check all controls for proper calibrations and list all controls requiring adjustment by control installers.

### 3.06 HYDRONIC SYSTEMS

- A. Preparation for Hydronic System Balancing:
  - 1. Hydronic system balance shall not begin until the testing and balancing firm has verified the following:
    - a. System is completely filled.





- b. System is clean.
  - c. System is free of air.
  - d. All service valves are open.
  - e. All strainers are provided with clean sleeves having proper perforations.
  - f. Three-way valves are properly piped.
  - g. All coils are correctly piped.
  - h. Coil fins are straight and clean.
  - i. Proper balancing devices are in place and correctly located:
    - 1) Meters
    - 2) Pressure taps
    - 3) Thermometer wells
    - 4) Balancing valves
  - j. Automatic temperature control system is in operation.
  - k. There is no entrained air in the suction piping to pumps in an open system which can have a negative effect on the pump performance.
  - l. The pressure is adequate to completely fill the system.
2. The testing and balancing firm shall measure the amperes of all pump motors before hydronic balancing is started and shall take proper steps to correct and report before proceeding further.
  3. The testing and balancing firm shall not continue the hydronic balancing if at any time hazardous conditions are observed. These conditions shall be reported before proceeding further.

B. General Procedures:

1. All flow quantities, temperatures and pressures shall be measured according to the AABC National Standards.
2. If, during the hydronic balancing, the testing and balancing firm determines any conditions that will not permit proper balancing, the fact shall be reported immediately.
3. At completion of balancing, at least one (1) terminal unit balancing valve in each piping branch shall be fully open.



4. At completion of balancing, at least one (1) branch pipe balancing valve shall be fully open.
5. The final position of each balancing valves shall be clearly marked. Any memory devices shall be set to permit closing and reopening the valve to its balanced setting.
6. The systems shall be balanced so the flow tolerance is in accordance with the AABC National Standards.
7. The testing and balancing firm shall verify that all automatic controllers operate the correct control valves. The valve position shall be as indicated by the controller.

C. System Component Balance Procedure:

1. Where there are no flow metering devices, the system component balance procedure shall be used.
2. Fluid flow quantities shall be calculated by using the measured differential pressure across the system components and comparing it with the manufacturer's flow vs. pressure differential rating.
3. The testing and balancing firm shall apply any necessary correction factor to the indicated value to account for density of the fluid flowing in the system.
4. The initial and final values of all stations (components used as flow meters) shall be included on the AABC report form. All other pertinent information shall be listed, such as:
  - a. Designation of station
  - b. Rated GPM
  - c. Rated pressure differential

D. Self-Contained Automatic Flow limiting Device (Balancing Procedures):

1. The testing and balancing firm shall verify that all flow limiting devices have a rated capacity to meet the design intent. It shall be verified that the device is installed properly. The pressure differential shall be measured across each device. If the pressure differential is found to be inadequate or excessive, the balancing procedure shall be stopped until corrective action is taken. The testing and balancing firm shall verify the following:
  - a. That temperature control valves re operated by the intended controller.
  - b. The integrity of temperature control valves.



- c. That valves are correctly installed.
  - d. That elements are correctly piped.
  - e. That all service valves are open.
2. The following information shall be included in the AABC report form for each terminal with a flow limiting device:
- a. Terminal designation
  - b. Design GPM
  - c. Self-contained automatic flow limiting device data:
    - 1) Manufacturer
    - 2) Catalog number
    - 3) Rated GPM
    - 4) Rated differential pressure
    - 5) Measured differential pressure
    - 6) Size

**END OF SECTION 230593**



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## SECTION 230700

### HVAC INSULATION

#### PART 1- GENERAL

##### 1.01 GENERAL REQUIREMENTS

- A. Work of this Section, as shown or specified, shall be in accordance with the requirements of the Contract Documents.
- B. 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]

##### 1.02 WORK INCLUDED

- A. Work of this Section includes all labor, materials, equipment and services necessary to complete the Insulation as shown on the drawings and specified herein, including, but not limited to, the following:
  - 1. Hot Water Piping.
  - 2. Ductwork

##### 1.03 RELATED WORK

- A. Piping and accessories.
- B. Sheet metal ductwork.
- C. HVAC equipment.

##### 1.04 QUALITY ASSURANCE

- A. New York City Building Code, New York City Mechanical Code, ASTM, UL, NFPA, ECCCNY (ASHRAE 90.1-2004).
- B. Codes and Standards:
  - 1. All insulations, jackets, or facings and adhesives used to adhere jacket or facing to the insulation, including fittings and butt strips, shall have non-combustible



fire and smoke hazard system rating and label as tested by ASTM E-84, NFPA 255 and UL 723 not exceeding Flame Spread 25, Smoke Developed 50.

2. Accessories such as adhesives, mastics, cements, tapes and cloth for fittings shall have the same ratings as listed above.
3. All products or their shopping cartons shall bear the Underwriters' label indicating that flame and smoke ratings do not exceed the above criteria.

C. Qualifications of Installers:

1. Insulation shall be applied by experienced personnel in accordance with the best trade practice, guided by manufacturer's printed installation directions.

D. Qualifications of Materials:

1. Every package or standard container of insulation, jackets, facing, cements, adhesives and coatings delivered at the building site for use must have a manufacturer, brand and description of material. In addition, all vapor barriers shall be labeled, indicating the thickness of insulation, product nomenclature and manufacturer.

1.05 SUBMITTALS

- A. Shop Drawings: Shop detail drawings, including method of attachment.
- B. Product Data: Manufacturer's printed data, catalog cuts, test data and recommendations.
- C. Samples, when requested.
- D. Instructions: Installation instructions.

1.06 PRODUCT DELIVERY AND STORAGE

- A. Deliver material properly labeled, packaged and undamaged.
- B. Do not store exposed to weather; provide suitable material to protect from damage.

1.07 WARRANTY

- A. HVAC Insulation: Provide written 5 year material warranty issued by the manufacturer upon completion of the work.

**PART 2 – PRODUCTS**



2.01 APPROVED MANUFACTURERS

- A. All insulation shall be as manufactured by Owens-Corning, Certainteed, Johns-Manville, or Armstrong. For the purpose of setting a standard of quality and thermal efficiency, the insulation materials specified hereinafter are materials as manufactured by Owens-Corning and Armstrong.
- B. All adhesives shall be as manufactured by Benjamin Foster or an approved equal.
- C. Except where otherwise insulation types and thickness specified are based on glass fiber insulating materials having a "K" value (BTU per hour per square foot per degree temperature difference per inch of thickness) as listed. Alternate insulation materials shall be estimated on the basis of thickness providing the equivalent heat transfer rates are obtained as herein specified. Insulating materials shall be resilient and moisture resistant so that the insulating properties will not be affected by rough handling, water damage and similar construction hazards.
- D. All adhesives, sealers and vapor barrier coatings shall be compatible with the materials to which they are applied, and shall not corrode, soften or attach such materials in either the wet or dry state.

2.02 INSULATION MATERIALS (PIPE AND FITTINGS)

- A. Pipe Insulation:
  - 1. Pipe insulation shall be one piece of half sectional UL rated and labeled non-combustible glass pipe insulation system with a "K" of .24 at 75°F mean temperature, except as otherwise specified.
  - 2. All above pipe insulation shall be jacketed with Owens-Corning Fiberglass "Fiberglass 25 ASJ/SSL" (all service jacket) a vinyl coated, reinforced and embossed vapor barrier laminate for hot, cold, concealed and exposed piping operating at temperatures from -60°F to +450°F insulation may also be from Armstrong, Armacell or approved equal. Jacket shall have a water vapor permanence of not more than .02 Perms. Jacket and butt strips shall have factory-applied self-sealing pressure-sensitive adhesive.
  - 3. In lieu of above jacket, in exposed areas, Contractor may furnish glass cloth jacket with vapor barrier for cold piping and glass cloth jacket without vapor barrier for hot piping.
- B. Fittings, Valves and Flanges:
  - 1. Fiberglass Insulation:
    - a. For fittings on all piping and for valves and flanges on cold piping, apply fiberglass molded or segmental insulation to fittings equal in



thickness to that of the insulation to be applied to adjoining pipe. On steam piping, insulating cement may be used as the insulating material for fittings.

- b. Fittings, valves and flanges on cold pipe shall be protected by a vapor barrier. The barrier shall be of the vinyl segmented type made specifically for the application. The barrier shall be held in place with metal bands and the joint shall be taped. An alternate method of using fiberglass cloth and a glue sizing in two layers may be used as an alternate.
- c. All fittings, valves, flanges, strainers, and steam traps located in mechanical equipment rooms and in conditioned spaces shall be fully insulated. Insulation shall be of the split type held in place with metal bands.

2. Expanded Form Insulation:

- a. Insulation for sweat fittings shall be miter-cut pieces of insulation of the same size and type as applied to adjacent piping.
- b. Insulation for screwed fittings shall be sleeve-type fittings covers made from miter-cut pieces of insulation of the same type as applied to adjacent piping. Inside diameter of insulation must overlap insulation on the adjoining piping.

2.03 INSULATION FOR HOT PIPE

A. Provide insulation for piping, fittings, flanges and valves of the thickness listed below:

<b>Insulation Thickness In Inches for Pipe Sizes</b>			
<b>Service</b>	<b>Material</b>	<b>Less than 1- 1/2"</b>	<b>1- 1/2" to 4"</b>
Hot Water Heating, Heat Recovery Water (250°F or less)	Fiberglass	1 1/2	2
Hot Water	Fiberglass	1	2





Runouts (Maximum 12' 250°F or less)			
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B. Insulation Jackets:

1. Concealed hot pipes shall have factory-applied white fire-retardant jacket, stapled and banded. Pipes banded with not less than three (3) bands per section.
2. Exposed hot pipes shall have factory-applied white fire-retardant jacket with butt strips stapled and banded. Pipes banded with not less than three (3) bands per section.
3. An acceptable alternative for both concealed and exposed hot piping shall be factory-applied white fire-retardant jacket with self-sealing lap and butt strip.
4. Finish calcium silicate with glass cloth adhered with Benjamin Foster BS 30-36, Duralar, Airgas or approved equal. Cement shall be trowelled smooth on glass cloth and fire retardant coating.

2.04 INSULATION FOR COLD PIPE

A. Provide insulation for piping, fittings, flanges and valves of the thickness listed below:

Insulation Thickness In Inches for Pipe Sizes					
Service	Material	Less than 1- 1/2"	1- 1/2" to 4"	5" to 6"	8" & Larger
Domestic Cold Water	Fiberglass	1/2	1/2	--	--

B. Insulation Jackets:

1. Cold pipes concealed and exposed up to 14" shall have factory-applied white fire-retardant jacket with self-sealing lap and butt strip. Ends of pipe insulation sealed off at valves, fittings and flanged with Benjamin Foster 30-35, mFm FlexClad, Owens Corning SSL II or approved equal.
2. Cold pipes concealed and exposed over 14" shall have factory-applied white fire-retardant jacket sealed with Benjamin Foster 82-07, Vimasco Corp. 760 Tickorea TIC6070 or approved equal adhesive. All circumferential joints wrapped with a 3" wide strip of white fire-retardant jacket adhered with Benjamin Foster 72-07, Vimasco Corp, Tickorea or approved equal adhesive. Ends of pipe insulation sealed off at valves, fittings and flanges with Benjamin Foster 30-35, mFm FlexClad, Owens Corning SSL II or approved equal.



2.05 INSULATION (DUCTWORK AND PLENUMS)

A. Provide insulation types for ductwork and plenums as indicated below:

Type	Description
A	Minimum R-5 insulation, 1 1/2" thick, 6 lbs/cu. ft. rigid board with factory-applied white fire-retardant jacket applied with mechanical fasteners. Seal all joints and breaks with 5" wide matching self-sealing tape. Butter all punctures with I-C 501. Where stiffening angles are greater than 1 1/2", provide insulation thickness equal to the angle height.

B. Provide insulation indicated above for the following duct services:

<u>Service</u>	<u>Insulation Type</u>
Interior outside air ducts and plenums (exposed)	A
Interior outside air ducts (concealed)	B
Stacks and breeching.	C

2.06 INSULATION (EQUIPMENT)

A. Provide insulation as described below for equipment listed:

1. Insulation shall be 1 1/2" rigid board, Type 705, 6 lb. density.
2. Covering shall be either 1/2" thick finishing cement over copper-clad hexagonal wire or two layers of presized 6 oz. glass cloths.

B. Apply the rigid board by mechanical fasteners such as Graham pins and speed washers. Seal joints with an adhesive, as approved and reinforced with a glass cloth membrane over vinyl mastic, or self-sealing matching tape. Butter all pinheads with an adhesive, as approved. If vapor seal board is wired on, use tin edges to protect the corners of the board. Seal all edges and joints.

C. For equipment with removable heads, (such as coolers and heat exchanger) provide insulation applied to the inside of easily removable sheet metal boxes.

D. Provide insulation as described above including removable sheet metal enclosure where required (P-1 & 2) for the following equipment:



## 2.07 INSULATION FOR BOILERS

- A. Each boiler shall be insulated on all surfaces, including the front and rear smoke boxes, but excluding the doors, manholes, handholes, and the area of the boiler front marked with maker's name, pressure, identifying marks, symbols, etc.
- B. The insulation shall consist of 3" thick asbestos-free calcium silicate block with compressive strength of 200 psi and maximum service of 850 Degrees F., with vertical joints staggered, and held in place with No. 16 gauge galvanized steel wire. Wire shall be secured to holes provided for this purpose in the frames around handholes, manholes, doors, base, etc. Over the insulating block shall be applied 2" mesh hexagonal galvanized wire netting and a 3/4" thick coating of insulating and finishing cement troweled to a smooth, hard finish. Provide galvanized steel corner beads at all outside corners.
- C. Access plates at back and bottom of rear smoke box shall not be insulated.

## PART 3 – EXECUTION

### 3.01 INSTALLATION OF INSULATION (GENERAL)

- A. Perform all work in strict accordance with the manufacturer's recommendations and the best practices of the trade and the intent of this specification.
- B. Apply all insulation over clean dry surfaces, butting all sections or surfaces firmly together and finishing as hereinafter specified.
- C. Seal all vapor barriers continuous and throughout against moisture penetration.

### 3.02 INSTALLATION – PIPE INSULATION

- A. Protect of Insulation:
  - 1. Protect insulation on hot pipes by saddles from hangers, guides, rollers and trapeze.
  - 2. Protect insulation on cold pipes from hangers, guides and rollers by 16 gauge galvanized metal shields (at least three times the insulation diameter in length and 1/3 the insulation circumference in width) on the outside of the insulation and vapor barrier. Hold shields in place by straps. Do not piece the insulation with hangers. Where glass fiber insulation is used on piping 3" and larger, provide half section of calcium silicate covering of equal thickness at metal shields.
  - 3. Do not use staples on vapor barrier jackets.



B. Fiberglass:

1. Adhere jacket and butt strips by removing release paper after insulation is installed on pipe and sealing the lap starting in center of each section, working toward the ends. Lap and butt strips must be pressurized by rubbing with hard tool such as nylon sealing tool.
2. Low temperature pipe insulation with vapor barrier jackets shall have all ends of each section buttered vaportight with sealant to prevent travel of moisture to adjacent sections of insulation if vapor barrier on any one section should leak. Ends of pipe insulation shall be sealed off with Foster 30-35, mFm FlexClad, Owens Corning SSL II or approved at all flanges and valves.
3. If glass cloth jacket is used, in lieu of pressure-sensitive adhesive, jacket and butt strips shall be sealed with Foster 82-07, Vimasco Corp. 760 Tickorea TIC6070 or approved equal adhesive. equal. Staples shall not be used under any circumstances.
4. Where metal bands are used on pipe insulation, they shall be 3/4" wide brass or aluminum bands. Bands shall be spaced to hold the ends and center of each section, and in no case shall the spaces exceed 18". Bands shall not be visible on exposed work.
5. Fittings: Insulation shall be securely fastened to fittings using wire. Apply a skin coat of insulating cement to the insulated fitting if needed to produce a smooth surface. After cement is dry, apply a light coat of Owens-Corning fitting mastic, Foster 30-90 Vapor-Safe Mastic, Polyguard CA-14 or approved equal UL labeled, Type C for low temperature pipe and Type H for hot pipe. Wrap the fitting with fiberglass reinforcing cloth by 2" on adjoining sections of pipe insulation. Apply second coat of mastic Type C or Type H over the reinforcing cloth, working into the mesh of the cloth. Smooth the surface. Mastic shall be applied at rate of not less than 40 square feet per gallon (approximately 3/64" wet film thickness for UL rated performance).
6. As an option to the above over fiberglass fittings, a polyvinylchloride fitting cover can be supplied, made of continuous one piece premolded, polyvinylchloride material. Low temperature lines shall have all seam edges of cover shall be wrapped with a vapor barrier pressure-sensitive color matching tape. Fittings to be Zeston, Speed-Line or approved equal.

C. Expanded Foam Insulation:

1. Wherever possible, slip pipe insulation onto piping before it is connected. Seal joints with Armstrong 520, or Foster 82-31 adhesive.



2. Where insulation cannot be slipped on, slit insulation lengthwise and apply to piping. Seal longitudinal seams and butt joints with adhesive.
3. Fittings: Joint slit seams and metered joints with adhesive. After the adhesive has dried, carefully slit the fitting over and snap over fitting, leaving seams and joints dry. After line has been tested, all joints shall be joined with Armstrong 520, or Foster 82-31 adhesive.

### 3.03 INSTALLATION – DUCT INSULATION

#### A. Rigid Board:

1. Insulation shall be cut to fit between standing seams and stiffeners and shall be secured to ductwork by impaling over mechanical fasteners. Attach pins to surface of duct and locate them not less than 3” from edge or corner to the board and on maximum 18” centers.
2. All joints shall be tightly butted. Apply Owens-Corning ASJ, Aquafin 2000, 3M 8067 or approved equal joint sealing tape to all transverse and longitudinal seams after ensuring you have a dry, dust-free surface. Use nylon sealing tool to apply pressure to the joint and make a good bond and form a complete vaportight system.

#### B. Flexible Wrap:

1. The duct wrap shall be applied over clean, dry sheet metal ductwork. Duct wrap shall be installed to allow maximum fullness at corners (avoid excessive compression); minimum voids shall be filled with Owens-Corning No. 110 cement, DAP 00272 cement, DuctMate Low VOC or approved equal wet troweled into openings.
2. Insulation shall be butted with facing overlapping all joints at least 2” and sealed with fire retardant vapor barrier adhesive and tied with copper-clad steel wire on 12” centers. Horizontal ducts having a width greater than 30” shall be secured on the underside with mechanical fasteners on 18” maximum center. Velocity run ducts shall be secured about the perimeter on 24” centers. All penetrations shall be sealed.

### 3.04 INSTALLATION – EQUIPMENT INSULATION

- A. Insulation shall be applied with staggered joints firmly butted and joined. The insulation shall be held in place by steel bands. Bands shall be 1” x 25 gauge galvanized steel spaced on not over 12” centers. All joints and voids shall be filled with Owens-Corning No. 110 cement, DAP 00272 cement, DuctMate Low VOC or approved well troweled into openings. All joints and voids shall be FRK taped and vapor sealed. They shall be applied over the insulation surface 1” galvanized wire netting laced together at all edges



and wired to steel bands with 16 gauge soft annealed wire. Over this shall be applied 1/2" thick layer of Owens-Corning No. 110 cement applied in two layers.

- B. Install metal corner beads at all corners and edges in order to provide a permanent installation. Onto the dry cement surface apply a brush coat of Foster Sealfast 30-36, mFm FlexClad, Owens Corning SSL II or approved equal at the rate of 60-70 sq. ft. per gallon. Embed into the wet coating a layer of 8 oz. canvas smoothed out to avoid wrinkles and lap all seams a minimum of 2".
- C. Apply a second brush coat of Sealfast 30-36, mFm FlexClad, Owens Corning SSL II or approved equal to the entire surface at the rate of 60-70 sq. ft. per gallon. Cleanouts, nameplates and manholes shall not be insulated and the insulation on surrounding surfaces shall be neatly beveled off at such openings.
- D. Chiller Heads:
  - 1. The insulation shall be miter cut as required. The insulation shall be attached to the equipment with Armstrong 520 or Foster 82-31 adhesive. The final installation shall be coated with two coats of Owens-Corning or Armaflex finish to match the color of the equipment.

### 3.05 INSPECTION

- A. Upon completion of the installation, visually inspect each insulated area and verify that all insulation is complete and properly installed.

**END OF SECTION 230700**



## SECTION 230900

### INSTRUMENTAL & CONTROLS FOR HVAC

#### PART 1 - GENERAL

##### 1.01 GENERAL REQUIREMENTS

- A. Work of this Section, as shown or specified, shall be in accordance with the requirements of the Contract Documents.
- B. 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]

##### 1.02 WORK INCLUDED

- A. Provide, completely ready for operation, an automatic temperature control system as described herein of the type using electric or electronic devices.
- B. Provide in addition to the controls specified in this Section all additional automatic controls, specified under other Sections of these Specifications and as indicated on the drawings.
- C. The entire control system to be complete with all required accessories, control devices, thermostats, valves, motors, relays, transducers, transformers, switches, dampers, panels, air piping, 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.

##### 1.03 QUALITY ASSURANCE

- A. Vendor Qualifications:
  - 1. Unless otherwise approved by the City of New York or Commissioner, Powers, Johnson, Honeywell or Barber-Colman electric, electronic, and pneumatic control (or digital) systems or approved equal will be accepted.
  - 2. In renovation of existing buildings, the original building control vendor may be used on the installation of the new control system.

##### 1.04 SUBMITTALS

- A. Provide shop drawings to the Commissioner for approval before any field installation is started giving complete description of all control elements and showing complete schematic



pipng and wiring diagrams, indicating control devices, control and interlock wiring, controller setpoints, sequence of operation, details and installation requirements. Drawings to indicate specifically the type of finish of all room type controls, subject to Commissioner approval. Provide control schematic mounted in glass picture frame for wall mounting.

- B. Product Data: Product manufacturer's data sheets and catalog cuts.
- C. Operational and Maintenance Manual: Provide manufacturer's instructions for operation and maintenance.

#### 1.05 DELIVERY, STORAGE AND HANDLING

- A. Deliver materials protected and undampened, with cartons labeled as to manufacturer and contents.
- B. Store materials in locations and in a manner to protect same from damage of any kind.

#### 1.06 WARRANTY

- A. Instrumentation and Control for HVAC: Provide written 3 year material warranty issued by the manufacturer upon completion of the work.

### **PART 2 – PRODUCTS**

#### 2.01 GENERAL

- A. Provide as herein specified a complete and operational automatic temperature control system of the electric type, Honeywell, Johnson, Unit Technologies, Powers, Barber-Colman or approved equal.
- 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. All control valves and fittings shall be provided under this section for installation under piping work.
- D. Provide lamicoid identification plates for all control devices.

#### 2.02 MULTIBLADE DAMPERS

- A. General:
  - 1. Multiblade dampers shown on the drawings in connection with outside air intake, exhaust air discharge, and air recirculation of the fan systems shall be the product of the manufacturer of the temperature control equipment.





2. Self-acting dampers used in the inlet to roof-type exhaust fans shall be provided by the fan manufacturers if specified as an option, otherwise it shall be provided under this section.
3. Openings in walls for outside air takes, together with stationary louvers and screens, will be provided by the Contractor, unless otherwise shown on the drawings.

B. Construction of Multiblade Dampers:

1. Frames: Frames shall be of steel, 1/8" thick channel shape or 1/4" thick flat bar. They shall be braced for rigid reinforcement. Frames shall be provided with bolt holes for mounting and with stationary stops on the four sides to prevent air leakage.
2. Blades: Damper blades shall not be wider than 10", shall have formed interlocking edges, and shall have a 1/2" deep "V" pressed in the center to stiffen the blades. Open position of the blades shall be limited to 90 degrees. Damper blades for fan systems shall be not lighter than No. 16 gauge galvanized sheet steel. Unless shown otherwise on the drawing, damper blades for supply systems shall be of the opposed blade type, and those for exhaust systems shall be parallel type.
3. Bearings: Bearings on blade pivot points shall be fitted with stainless steel or non-ferrous metal sleeve (or ferrule type) pressed into damper frame. Bearings shall be accurately sized to fit blade axles, and shall provide smooth operation.
4. Linkage: Linkage or tie rod to interconnect blades shall be of non-ferrous metal and shall be secured to the blade lugs by means of cotter pins and washers.
5. Provide end switches for all dampers to be sequenced with fan operation.

2.03 THERMOMETERS

- A. Remote bulb thermometers of the 3-1/2" dial, liquid filled, fully compensated capillary type, are to be provided for measurement of temperature for each pneumatic remote bulb thermostat indicated or specified, and wherever else called for.

2.04 ELECTRICAL WIRING

- A. All power wiring, conduit and connections between the motor controls will be provided by the Electrical Trade
- B. Provide wiring, conduit and connections for low temperature thermostats, high temperature thermostats, alarms flow switches, actuating devices for temperature, pressure and flow indication, point resets and the like.

**PART 3- EXECUTION**

3.01 INSPECTION



- A. Examine the area and conditions where Automatic Temperature Control is to be installed and notify the Commissioner of conditions detrimental to the proper and timely completion of the work. Do not proceed with the work until unsatisfactory conditions have been corrected by the Contractor in a manner acceptable to the Commissioner.

### 3.02 INSTALLATION

- A. Install equipment in accordance with approved detail drawings, manufacturer's instructions, and as required by sequence of operation.
- B. The control system shall be installed by mechanics regularly employed by the manufacturer of the control system, or authorized and certified representatives.
- C. The control and interlock wiring shall be the responsibility of this Contractor. Submit completely coordinated wiring diagrams for all wiring.

### 3.03 SERVICE AND TESTING

- A. After completion of the control system installation, the Contractor shall have the control manufacturer regulate and adjust all thermostats, control valves, damper motors, etc. and place them in complete operating condition subject to the satisfaction of the Commissioner. Complete formal instructions shall be given to the City of New York's operating personnel on the operation and maintenance of all control equipment furnished as a part of this Contract.

### 3.04 CONTROLS

- A. Radiation Control:
  - 1. For hot water systems, provide room thermostat to maintain constant space temperature by automatically changing position of modulating radiation hot water or steam valve.
- B. Unit Heater Control:
  - 1. For hot water systems, provide single-temperature room thermostat to cycle fan motor to maintain constant space temperature.
  - 2. Provide strap-on aquastat on unit return piping to de-energize fan motor when fluid temperature falls below adjustable setting of aquastat.
- C. Cabinet Heater Control:
  - 1. For hot water systems, provide a thermostat mounted in cabinet return air compartment to cycle fan motor to maintain constant space temperature.
  - 2. Provide strap-on aquastat on unit return piping, within cabinet piping end pocket, to de-energize fan motor when fluid temperature falls below adjustable setting of aquastat.

**END OF SECTION 230900**



## SECTION 232113

### PIPING SYSTEMS AND ACCESSORIES

#### PART 1 - GENERAL

##### 1.01 GENERAL REQUIREMENTS

- A. Work of this Section, as shown or specified, shall be in accordance with the requirements of the Contract Documents.
- B. 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]
- C. Piping, fittings, valves and accessories shall be suitable for the pressure and temperature of service.
- D. The Contractor shall be responsible for establishing grades and elevations, and checking of all interferences, and shall verify size and locations of all piping in the field prior to the start of installation of equipment and piping. Certain items such as rises and drop in piping, piping offsets, valves, access doors, fittings, sleeves, drain valves, traps, air vents, are indicated on the contract drawings for clarity for a specific location requirement and shall not be interpreted as the extent of the requirement for these items. The Contractor shall, at his expense, perform all minor rerouting of piping around obstructions from new or existing construction whether or not such conditions are indicated on the plans. Minor rerouting of piping is defined as any rerouting which requires less than 10 linear feet of additional piping (measured along the centerline) over and above that shown on the drawings with piping of a size equal to that shown in the original routing. Whenever an obstruction requires more than a minor rerouting as defined above, the Contractor shall report the condition to the Commissioner prior to the start of pipework on the affected system. The Contractor shall be responsible for neglect of checking all elevations, clearances, dimensions and locations of piping systems to prior to the start of work on same.
- E. All piping shall be installed above hung ceiling unless otherwise noted. Contractor shall coordinate with Architectural drawings for all ceiling elevations.



1.02 WORK INCLUDED

- A. Work of this Section includes all labor, materials, equipment and service necessary to complete the Pipe and Pipe Fitting Materials, Hangers and Supports as shown on the drawings and specified herein, including, but not limited to, the following:
1. Hot Water Heating System.
  2. Domestic Make-Up Water.
  3. Fuel Oil

1.03 RELATED WORK

- A. Insulation.
- B. HVAC Equipment.
- C. Automatic temperature controls.

1.04 QUALITY ASSURANCE

- A. ANSI, ASTM, ASME, AWS.
- B. Comply with requirements of all governing authorities having jurisdiction.
- C. No welder shall be employed who has not been fully qualified and certified by an approved, nationally certified, welding bureau or similar recognized testing agency.
- D. The competent and experienced welders who have qualified shall be retained at the job at all times when welding is done. Once qualified, they shall not be removed from the job. Each welder shall be in possession of a stamp to identify work performed by him.
- E. Welding material and labor shall be in accordance with the welding procedures of ANSI piping codes. Mark of welder shall be stamped on each welded joint of pipe.

1.05 SUBMITTALS

- A. Shop drawings indicating pipe layout (3/8" scale), sizes, types of materials, details, attachment and installation. Coordinate the work with other trades doing sheet metal work, electrical work and general construction .
- B. Product Data: Manufacturers' printed data, catalog cuts, recommended connections and installation methods. Submit for valves, fittings, strainers, supports, sleeves, anchors and guides.
- C. Samples, when requested.



- D. Manufacturer's test data.
- E. Reports of pipe field hydrostatic test.

1.06 DELIVERY, STORAGE & HANDLING

- A. Deliver materials properly identified as to type, size, manufacturer's name, specification code, etc., and undamaged.
- B. Do not store exposed to weather; cover with suitable type material to protect from damage.
- C. Properly protect all piping so as to prevent damage to the pipe or the introduction of foreign material into the pipe. For the purpose of protecting piping from pre-installation contamination, all piping shall be shipped to the jobsite with suitable caps, sheet metal covers or plugs. Pipe caps, etc. shall not be removed until just before installation.
- D. Cap or plug all openings in pipe and pipe fittings during installation.
- E. During loading, transporting and unloading, use care to prevent injury to pipes and pipe fittings. Do not drop pipe or fittings. Examine all pipe and fittings before laying. Do not install any piece that is found to be defective.
- F. Store and protect all materials from injury prior to installation. Do not store any materials directly on the ground or floor. Keep materials as clean and dry as possible and free from damage or deteriorating elements.
- G. Remove and replace with sound pipe any defective pipe and pipe fittings discovered after installation without additional expense to the City of New York.

1.07 WARRANTY

- A. Piping and Accessories: Provide written 1 year material warranty issued by the manufacturer upon completion of the work.

**PART 2 – PRODUCTS**

2.01 MATERIALS FOR PIPE

- A. Pipe for the various services shall be as follows:

<u>Hot Water:</u>					
-Runouts	to	3/4"			
Terminal Units			Copper	Soft	Type L
					ASTM B-88



-Mains, Risers, Branches, etc.	2" & below	Steel	Black	Schedule 40	ASTM A53A, S, EWR
	Up to 10'	Copper	Hard	Type L	ASTM B-88
		Steel	Black	Schedule 40	ASTM A53A,S,EWR
<u>Fuel Oil:</u>					
-Exposed	All	Steel	Black	Schedule 80	ASTM A53A, S, ERW
-Buried	All	Steel	Black	Schedule 80 Mill Wrap	ASTM A53A, S, ERW
Sleeves (conduit) for enclosing oil lines outside of rated shafts above lowest level of building	All	Steel	Black	Minimum 10 GA	ASTM A53A, S, ERW
<u>Automatic Air Vents</u>	All	Copper	Soft	Type L	ASTM B-88
<u>Chemical Feed</u>	1 1/2" & below	Plastic	Polyproplene	Schedule 80	
	2" & above	Stainless Steel		Schedule 40	
<u>Cold Water</u>	All	Copper	Hard	Type L	ASTM B-88

B. All steel pipe shall be new, Grade A, unless noted above and free from rust or scale.

C. Reinforce piping at all anchor points.

2.02 MATERIALS FOR PIPING FITTINGS



- A. Valves, strainers, gauges, air vents, specialties, and other piping accessories shall be rated for the system pressures as indicated below. Fittings for various services shall be as follows:

<u>Service</u>	<u>Size</u>	<u>Material</u>	<u>Type</u>	<u>Weight</u>	<u>Standard</u>
<u>Hot Water</u>	2" & below	Wrought Copper	Solder	Standard	ANSI B16.22
	2 1/2" & above	Steel	Welding	Standard	ASTM A234
<u>Automatic Air Vents</u>	All	Wrought Copper	Solder	Standard	ANSI B16.22
		<b>-OR-</b> Bronze	Compression	Standard	ASTM A40-2
<u>Chemical Feed</u>	2" & below	Stainless Steel	Screwed	300 psig	
	2 1/2" & above	Stainless Steel	TIG Welding	Schedule 80	
<u>Cold Water</u>	All	Wrought Copper	Solder	Standard	ANSI B16.22

- B. Weights of fittings shall be as specified above.
- C. All screwed couplings and shoulder nipples not exceeding 5" in length shall be of the same material as the pipe but of dimensions conforming to Schedule 80.
- D. All fittings used at expansion loops or bends shall be of 250 lb. WSP Class.
- E. Cast iron and malleable iron fittings shall be of Crane, Walworth or approved equal.
- F. Welding fittings shall be of the same material and schedule as the pipe to which they are welded. Welding elbows shall be long radius pattern unless clearance conditions necessitate the use of standard radius pattern. Welded tees shall be used where difference



between main and branch are two (2) standard pipe sizes or less. Branch connections shall be reinforced with Weldolets by Bonney Forge and Tool Works or welding saddles by Tube-Turn, Walworth or approved equal. Welding fittings shall be Tube-Turn, Walworth or approved equal.

- G. Unions 2" and smaller shall be screwed unless otherwise noted. Unions 2 1/2" and larger shall be flanged. Screwed unions on wrought iron and steel pipe, unless otherwise specified, shall be of malleable iron with bronze ground seats suitable for 300 lbs. WSP. Screwed unions on brass pipe shall be brass, ground joint suitable for 300 lbs. WSP. Flanged unions shall be malleable iron, gasket type suitable for 150 lbs. WSP. Unions shall be as manufactured by Crane, Walworth or approved equal.
- H. Flanges shall be of the same weight as the fittings and valves in each service category. Welding neck flanges shall be used with flanged equipment, etc., on welded lines. All flanges shall be drilled in conformance with ANSI B16.5, 125 lb. or 300 lb. standard steel. Welding flanges shall be of steel. Laps shall be machined on front, back and edge and loose flanges have face and bore machined. Screwed flanges shall be faced perpendicular to adjoining pipe.
- I. Flange joints shall be faced true, packed and made up perfectly square and tight. Each flange joint shall be provided with best grade steel bolts with square forged heads and with cold-pressed semi-finished hexagon nuts. Bolts and nuts shall be dripped in a mixture of graphite and oil, just before installation. All threads shall be U.S. Standard Gaskets shall be one-piece ring type 1/16" thick full face, suitable for temperature, pressure and service of systems.
- J. Solder for solder-type fittings shall be of 95% tin and 5% antimony.
- K. Brazing material for refrigerant piping shall be 15% silver, 5% phosphorous, 8% copper, brazing filler as manufactured by J.W. Harris.
- L. Dielectric Fitting: Dissimilar connections shall be made with an insulating dielectric material such as Teflon or neoprene (i.e., between copper and black steel pipe).
- M. Mechanical Couplings (Steel Pipe)
  - 1. Contractor at his option may provide mechanical couplings in lieu of welded fittings and joints for the following systems.
    - a. Hot Water
  - 2. Grooved Piping
    - a. Couplings may be used in lieu of welding, thread or flanging on 2" through 24" carbon steel pipe, on water services from -30°F to 250°F within the manufacturer's rated working pressures. Pipe grooving shall be cut grooved for Schedule 40 and Schedule 80 and/or rolled grooved





for copper as per manufacturer's latest spec. Installation is per manufacturer's latest recommendations.

- b. Standard grooved couplings, (2½" to 12"), consisting of two pieces of ductile iron with reverse angle pads. Coupling gaskets will be Grade "E" EPDM synthetic rubber, red or green color coded with a central cavity pressure responsive design, and maximum operating temperature of 230°F. Couplings bolts and nuts shall be heat treated carbon steel, trackhead design conforming to physical properties of ASTM A-183 and A-449. All grooved coupling shall be as manufactured by Victaulic Co., Lenntech, Global Tech or approved equal Style 107H, 07, W07, 177,77, W77, or approved equal. All flexible couplings shall be Victaulic Style 75 or 77. Flexible couplings may be used in lieu of flexible connectors at equipment connections. Three (3) couplings for each connector shall be placed in close proximity to the source of vibration
  1. 2" through 8" Sizes: "Installation Ready" stab-on design, for direct 'stab' installation onto grooved end pipe without prior field disassembly and no loose parts, Grade "EHP" EPDM gasket suitable for hot water up to 250 deg F. Victaulic QuickVic, Lenntech, Global Tech or approved equal Style 107H (rigid) and Style 177 (flexible).
- c. For piping 2 ½" and larger, full size branch connections shall be made with manufactured grooved end tees. Branch connections for less than full size shall be made with Victaulic hole cut products. Style 920 or Style 920N branch connections with locating collar engaging into hole or Style 72 outlet coupling used to join grooved pipe and to create a branch connection. Gaskets for branch connection shall be Victaulic Grade "E" EPDM Compound, Lenntech, Global Tech or approved equal with working temperature of -30°F to 230°F. For air piping containing oil vapors use Grade T Nitrile gaskets.
- d. FLANGES

Vic-Flange Style 741 (2"-12") or Style W741 (14"-24") for connection to ANSI class 125 and 150 flanged components. For connection to ANSI class 300 flanged components use Victaulic, Lenntech, Global Tech or approved equal Style 743.
- e. Standard Fittings – shall be cast of ductile iron conforming to ASTM A-536 (Grade 65-45-12) painted with a rust inhibiting modified vinyl alkyd enamel or galvanized in accordance with ASTM A-153.
- f. AGS Ductile Iron or Steel Fittings – (14"-24"), shall be cast ductile iron conforming to ASTM A-536 (Grade 65-45-12), or forged or fabricated steel conforming to ASTM A-106 or A-53 Grade B (0.375" wall),



painted with rust inhibiting modified vinyl alky enamel or galvanized in accordance with ASTM A-153.

3. Valves

- a. Plug Valve – Series 377 Sizes 3” through 12” eccentric grooved end valve for throttling services. The body cast iron ASTM A-126 Class B and coated with alkyd enamel. The eccentric plug, integral with the upper and lower stems is of high strength ductile iron ASTM A-536. The plug is encapsulated with Grade E EPDM rubber rated at 230°F for water services.
- b. Check Valves 14” through 24” Dual Disc Check Valves shall be Vic-Check Series W715 Check Valves with spring activated, dual disc, non-slamming design. Valves shall all be suitable for horizontal or vertical installation and rated for working pressures up to 230 PSI CWP.
- c. Check valves 2” through 12” shall be Vic-Check Series 716H and Series 716 Valve with a non-slam tilting disc design, spring loaded. Valve rated to 365 psi maximum CWP to 230 degrees F in applicable piping systems.
  1. 2” through 3” : Type 302/304 stainless steel disc, stainless steel spring, brass shaft, nickel-plated seat and black enamel coated body. Rated 230 degrees F for water services at 365 psig.
- d. Swing Check Valves shall be Vic Swinger Series 712 in sizes 2” through 4” with full port opening and bolted coupling closure access. Valves shall be rated for 300 PSI working pressure, Grade “E” EPDM Disc Seat ASTM D-2000.
- e. Strainer – Style 730 is Tee Pattern Strainer, 2” through 12”, for easy access and cleaning with standard grooved ends for installation in vertical downflow or horizontal flow position. Style W730 is Tee Pattern Strainer, 14” through 24”, for easy access and cleaning with AGS grooved ends for installation in vertical downflow or horizontal flow position.
- f. Strainer – Style 732 is Wye Pattern Strainer, 2” through 12”, for easy access and cleaning with standard grooved ends with blowdown port fitted with pipe plug.
- g. Circuit Balancing Valves:
  1. 2” and smaller - Victaulic/Tour and Andersson Series 786 and 787 circuit balancing valves with provisions for connecting a



Series 73M portable differential pressure meter. Valves shall provide precise flow measurement, flow balancing and positive shutoff with no drip seat. Valve shall be y-pattern globe type with Ametal brass copper alloy body, EPDM o-rings, 4-turn digital readout handwheel for balancing and concealed memory feature with locking, tamper-proof setting with soldered or threaded end connections. Install Series 78U union port fitting and Series 78Y strainer/ball valve combination to complete terminal hookup at coil outlet.

N. Mechanical Couplings (Copper Pipe)

1. Contractor at his option may provide mechanical couplings (Victaulic CTS grooved system or approved equal) in lieu of brazed fittings and joints for the following systems:
  - a. Hot Water 2" and above
2. Grooved Piping
  - a. Couplings may be used in lieu of brazing or flanging on 2" through 8" copper pipe, on water services from -30°F to 250°F within the manufacturer's rated working pressures. Pipe grooving shall be rolled grooved for copper as per manufacturer's latest specifications. Installation is per manufacturer's latest recommendations.
  - b. Grooved couplings consisting of two pieces of ductile iron with reverse angle pads, coated with copper-colored enamel. Coupling gaskets will be an EPDM synthetic rubber, red color coded with a central cavity pressure responsive QuickVic design. Coupling bolts and nuts shall be heat treated carbon steel, trackhead design conforming to physical properties of ASTM A-183 and A-449. Couplings shall be "installation ready" stab-on design for direct 'stab' installation onto roll grooved copper tube without prior field disassembly and no loose parts. All grooved coupling shall be as manufactured by Victaulic Co., Lenntech, Global Tech or approved equal Style 607 or approved equal.
  - c. For piping 2" and larger, branch connections shall be made with manufactured grooved end tees style 620 and 625. Branch connections for less than full size shall be made with Victaulic Style 622 copper Mechanical-T, consisting of a cast bronze upper housing (C83600 85-5-5) with female NPT threaded outlet and locating collar, ductile iron lower housing (ASTM A536) coated with copper-colored enamel and synthetic rubber gasket. Gaskets for branch connection shall be Victaulic Grade "E" EPDM Compound, Lenntech, Global Tech or approved equal with working temperature of -30°F to 230°F.



d. Flanges

Vic-Flange, Lenntech, Global Tech or approved equal Style 641 (2-1/2"-6") for connection to ANSI class 125 and 150 flanged components.

e. Elbow Fittings and Tees – (2"-8"), shall be wrought copper conforming to ANSI B16.22, Style 610, 611 and 620.

3. Valves

a. Check valves 2" through 12" shall be Vic-Check Series 716M Series 716 Valve with a tilting disc design, spring loaded. Valve rated to 365 psi maximum CWP to 230 degrees F in applicable piping systems.

1. 2" through 3": Type 302/304 stainless steel disc, stainless steel spring, brass shaft, nickel-plated seat and black enamel coated body. Rated 230 degrees F for water services at 365 psig.

b. Swing Check Valves shall be Vic Swinger Series 712 in sizes 2" through 4" with full port opening and bolted coupling closure access. Valves shall be rated for 300 PSI working pressure, Grade "E" EPDM Disc Seat ASTM D-2000.

c. Strainer – Style 730 is Tee Pattern Strainer for easy access and cleaning with grooved ends for installation in vertical downflow or horizontal flow position.

O. Press Fittings (Steel Pipe)

1. Contractor at his option may provide press fittings in lieu of welded fittings and joints for the following systems:

a. Hot water

2. Press fittings for steel shall only be used for piping up to 2 inch and for piping rating no more than 250 degrees F at 200 psig.

3. Press Fittings: 1/2-inch through 2-inch shall conform to ASME B31.1, ASME B31.3, or ASME B31.9 Press fittings with zinc and nickel coating for use with IPS carbon steel pipe conforming to ASTM A53, ASTM A106, ASTM A135, or ASTM A795. Press fittings shall have an EPDM sealing element, 420 stainless steel grip ring, separator ring, and an un-pressed fitting leak identification feature. Sealing elements shall be verified for the intended use. Installation must be in accordance to manufacturer's instructions and specifications.

4. All fittings shall be provided with a five year warranty that shall include consequential damages.



5. Press fittings shall be by Mega Press by Viega, Vitaulic, Nibbco or approved equal.

P.Press Fittings (Copper)

1. Contractor at his option may provide press fittings in lieu of soldered or brazed fittings and joints for the following systems:
  - a. Hot water
  - b. Drain
  - c. Cold water
2. Press fittings for copper shall only be used for piping up to 4 inch and for piping rating no more 250 degrees F at 200 psig.
3. Press Fittings: Bronze or copper shall conform to the material requirements of ASME B16.18 or ASME B16.22, and the performance requirements of IAPMO PS117, and ICC LC1002. Press fittings ½-inch thru 4-inch for use with ASTM B88 copper tube type K, L, or M and ½ inch up to include 1-1/4-inch annealed copper tube. Press fittings shall have an EPDM sealing element and Smart Connect (SC) feature. 2-1/2-inch thru 4-inch shall have a 420 stainless steel grip ring, PBT separator ring, EPDM sealing element and Smart Connect (SC) feature. Sealing elements shall be verified for the intended use.
4. All fittings shall be provided with a five year warranty that shall include consequential damages.
5. Press fittings shall be by ProPress by Viega, Vitaulic, Nibbco or approved equal.

Three (3) couplings, for each connector, shall be placed in close proximity to the source of vibration.

2.03 PIPE SUPPORTS, HANGERS AND INSERTS

- A. Products of B-Line Systems, Fee and Mason Mfg. Co., Grinnell Co., Inc. or Grable Mfg. Co. will be acceptable in place of particular manufacturer's catalog figure number specified herein. Submit shop drawings, bulletins, catalog figure numbers, or samples as may be requested, of supports, hangers, inserts, toggle bolts, proposed to be used for various conditions; obtain approval before installing same.



- B. Provide one of the following types of hanger for overhead support of horizontal piping:
1. For copper tubing where hangers are in direct contact with tubing, use clevis type steel hanger, copper plated, Fee and Mason Fig. 364, with supporting rod to suit.
  2. For all piping 6" and smaller, use clevis type hangers, Fee and Mason Fig. 239.
  3. Provide supporting rods for hangers of diameter and of lengths as required, with double locknuts for each.
- C. Where hanger rods leave unsightly holes in ceilings in finished areas, provide steel ceiling plates, Fee and Mason Fig. 279 or cast iron ceiling plates with set screw, Fig. 290.
- D. Provide one of the following to support horizontal piping from wall:
1. Where no provision for expansion and contraction is required and pipe can be located close to wall, use steel J-hook, suitable for pipe sizes up to 3", Fee and Mason Fig. 146.
  2. For hanger suspension, 750 lb. maximum loading, use light welded steel bracket with hole for one rod up to 3/4" diameter, Fee and Mason Fig. 153. For additional rod suspension, use with this bracket steel clip Fig. 153C for pipe sizes up to 3".
- E. Vertical piping supports for copper tubing where hangers are in direct contact with tubing, use copper tubing riser clamps Fig. 368. For steel or cast iron pipe use steel extension pipe clamps Fee and Mason Fig. 241.
- F. Where beam clamps are required, use malleable iron "C" clamps with case hardened cup pointed set screw and retaining strap, Fee and Mason Fig. 255 or beam clips, Fee and Mason Fig. 254 or Fig. 388 as required or directed.
- G. Concrete inserts shall be approved for local use and shall be black malleable iron universal type, for threaded connections with lateral adjustment, top slot for reinforcing rods, lugs for attaching to forms, Fee and Mason Fig. 2570.
- H. Where piping is to be supported from Terra-Cotta tile construction, provide toggle bolts as manufactured by Rrawl, Hilti, or approved equal.
- I. All insulated pipe shall be protected at supports by pipe saddles. Pipe saddles for use on hangers shall be Insul-Shield pipe saddles as manufactured by Insul-Coustic Corp. or approved equal.



- J. Steel anchors of an approved design shall be provided where indicated or required for proper control of stress in piping due to expansion. Anchors shall be made of structural materials of heavy cross section and securely fastened to building construction. Submit detail drawings for approval before installation.
- K. Provide pipe alignment guides where indicated, required or directed, to guide the expanding pipe to move freely from anchor points in expansion joints, loops or bends. Construct with angles or channels. Submit detail drawings for approval before installation.

#### 2.04 EXTERIOR WALL/PIPE PENETRATIONS

- A. Underground pipe through wall penetrations shall be sealed with positive hydrostatic seals. The modular mechanical seals shall consist of interlocking rubber links shaped to continuously fill the annular space between the pipe and wall opening. The seals shall be "LINK SEALS" as manufactured by Thunderline Corporation of Wayne, Michigan or an approved equal. Caulking or other type of mastic sealants or lead or oakum joints are not acceptable. The Contractor shall determine the required inside diameter of each wall opening or sleeve to fit the pipe LINK SEAL. The LINK SEAL size and model shall be as recommended by the manufacturer's instructions.

#### 2.05 SLEEVES

- A. Make sleeves of galvanized steel pipe when they are located in concrete beams of concrete fireproofing, water proofed floors or where subject to moisture.
- B. In all other locations, sleeves shall be constructed of galvanized sheet steel with lock seam joint of following minimum gauges: 24 gauge for 2" and smaller; 22 gauge for 4" to 6" inclusive; 20 gauge for sizes over 6".
- C. Sleeve flashing shall be 16-ounce soft sheet copper, or a 4-pound lead flashing.

#### 2.06 ESCUTCHEONS

- A. Escutcheons shall be one piece with set screw except where otherwise noted, constructed of the following material.
  - 1. White painted sheet brass or steel for pipes passing through white prefinished ceilings.
  - 2. Cast iron, deep cut type project above finished floor.
  - 3. Heavy, solid pattern steel or cast iron with set screw for all other piping.



- B. Provide escutcheons on all pipes passing through floors, walls, partitions and ceilings where exposed to view in occupied areas. Also provide escutcheons within custom or factory-fabricated cabinet en-closures.

#### 2.07 VALVES – GENERAL

- A. Provide all valves and piping accessories required to complete the installation of all heating, ventilating and air conditioning systems indicated on the drawings and as specified.
- B. Provide valve tags and charts 2" diameter, 18 gauge aluminum or brass, embossed numbers filled in with black paint, fastened by heavy aluminum or brass hooks/chains on all valves and controls (except equipment shutoff valves).
- C. Valve design, material of component parts, workmanship and other features shall be similar to the following Hammond Valve Corporation catalog numbers for various types listed.
- D. Automatic motorized valves for temperature control shall be furnished under Automatic Temperature Control section for installation under this section.

#### 2.08 GATE VALVES

- A. Water service (40°F to 200°F) 2 1/2" and larger flanged iron body, solid wedge, non-rising stem, 125 psi wsp, Fig. IR-1138.
- B. Water service (40°F to 200°F) 2" and smaller soldered, bronze body, inside screw, non-rising stem, 125 psi wsp, Fig. IB-647, or screwed bronze, inside screw, non-rising stem, 125 psi wsp, Fig. IB-645.

#### 2.09 GLOBE VALVES

- A. Water service (40°F to 200°F) 2" or smaller – screwed, bronze, composition disc, union bonnet, 150 psi wsp, Fig. IB-413 or soldered, bronze, union bonnet, renewable Teflon disc, 150 psi wsp, Fig. IB-423.
- B. Water service (40°F to 200°F) 2 1/2" and larger, flanged, iron body, bronze trim, 125 psi wsp Fig. IR-116.





2.10 CHECK VALVES

- A. Water service (40°F to 200°F) 2" and smaller – screwed, bronze 125 psi wsp, Fig. IB-940 or soldered bronze 125 psi wsp Fig. IB-941.
- B. Water service (40°F to 200°F) 2 1/2" and larger – flanged, iron body, bronze trim, 125 wsp, Figure IR-1124.

2.11 LUBRICATED PLUG VALVES

- A. Lubricated plug valves for water service (40°F to 200°F) 2" and smaller – tapered lubricated plug, lever operated, bolter cover, screwed ends, Teflon coated plug, fixed adjustment gland, semi-steel body, suitable for 175 psi service. Rockwell Fig. 142.
- B. Lubricated plug valves for water service (40°F to 200°F) 2 1/2" and larger USAS B16.1, 125 psi cast iron flanged, semi-steel body, tapered Teflon coated lubricated plug, lever operated, fixed adjustment gland, bolted cover, 200 psi wsp, Rockwell Fig. 143. Sizes 3" and larger shall be worm gear operated, Rockwell Fig. 149.
- C. Valves shall be suitable for installation between USASI 125# or 150# weld-neck or slip-on flanges without special preparation.
- D. Lubricated plug valves shall be as manufactured by Rockwell International, FMC Corporation or Walworth.

2.12 BALL VALVES

- A. Ball valves for water service (40°F to 200°F) 2" and smaller shall be top entry, screwed or soldered bronze with double Teflon torsion seats; Crane Fig. 702 & 702SW discs.

2.13 COMBINATION CHECK, BALANCING AND SHUT-OFF VALVES (TRIPLE DUTY VALVE)

- A. Provide and install in the pump discharge piping of hydronic (hot water) systems, combination silent check, balancing, and shut-off valves.
- B. Valves shall be cast iron construction with chatter resistant stainless steel springs, bronze seats, stems and discs and asbestos-free graphite and Teflon packing.



- C. Valves shall have a calibrated stem indicator, a disc designed for silent operation at low flow rates and shall be designed for repacking while under pressure.
- D. Valves shall be manufactured by Bell & Gossett, Armstrong, or approved equal.

#### 2.14 MANUAL BALANCING VALVES

- A. Provide manual balancing valves at the junction of all return mains and where indicated or required to balance water flow.
- B. For piping 2" and smaller, balance cocks shall be screwdriver or wrench operated, designed for 125 psi working pressure, Type 10 through Type 60, as manufactured by Sarco, Taco, Thrush or as approved.
- C. For piping 2 1/2" and larger, provide balancing cocks of lubricated plug valve type.
- D. Where a shutoff valve and a balancing cock is required, the Contractor may provide a combination balancing, indicating, shutoff valve similar to type IBW Balance Master manufactured by Sarco Co., Dezurick, Fairbanks Co. or as approved.

#### 2.15 THERMOSTATIC VALVES (HOT WATER)

- A. Provide a thermostatic valve in the unit connection as indicated on drawings. Thermostatic valve shall be a self powered type in which the room temperature sensing element is contained either in a remote bulb or in thermostatic head located on the valve body. Valve shall be designed for use with steam (hot water).
- B. The temperature sensing remote bulb shall be mounted on the back wall of the convector enclosure, opposite the air inlet grille. Where the convector enclosure is of the expanded metal type, the thermostatic head type valve shall be used and the head shall extend outside the enclosure or operator shall be provided with a remote dial for mounting on the enclosure.
- C. Thermostatic valves shall be manufactured by Braukman Controls Corporation, Danfoss Inc., Flair Manufacturing Corporation, Ammark or Honeywell.

#### 2.16 STRAINERS FOR STEAM AND WATER SERVICE

- A. Strainers of the "Y" patten 2" and smaller shall be bronze screwed; 2- 1/2" and larger sizes shall be cast iron flanged. Provide each strainer with blow-off valve and hose bibb. Strainers shall be Type "SB" screwed or type "D", flanged as manufactured by SARCO Co., Mueller or Crane.
- B. Strainers shall have a stainless steel or monel screen with 1/32" perforations and a maximum pressure drop of 1 psi at design flow.



2.17 STRAINERS FOR FUEL OIL SERVICE

- A. Provide a duplex strainer in the oil supply for the heating plant and the diesel generator in an accessible location. Strainer basket shall be of brass or copper mesh installed in a heavy gray cast iron body or chamber. Chamber shall be provided with an easily removable cover, screwed or yoke fastened at the top, and with a plugged, large size drain at the bottom. Strainers shall be designed for operation on pressures up to 15 pounds per square inch and tested hydrostatically at 250 pounds per square inch. Strainers shall be of the highest grade manufactured by Hayward Manufacturing Co., Kraissl Co., Preferred Utilities Mfg., Corp., Ray Burner Co., or other equal, all as approved.

2.18 PRESSURE GAUGE

- A. Provide pressure gauge on supply and return pipe connections to all equipment.
- B. Pressure gauges shall be white faced with black numerals, copper alloy brass bourbon tube, 4 1/2" aluminum case, black finish, stainless steel or monel movement, brass socket and pressure snubber where required.
- C. Connect each gauge through a tee handle cock.
- D. Gauges shall be manufactured by Weiss, Trerice, Helicoid or Marshalltown.
- E. Pressure gauges shall have a range at least twice the working pressure but in no case less than 0 to 30 pounds.

2.19 THERMOMETERS

- A. Provide thermometer on supply and return pipe connection to all equipment.
- B. Thermometers shall be of the red reading, industrial, adjustable angle type with 9" cast aluminum case, enamel finish, brass stem and brass union type separable sockets.
- C. Thermometers shall be Vari-Angle as manufactured by Weiss, Trerice or Marshalltown.

2.20 AIR VENTS

- A. At all points indicated on the drawings and whenever else required to assure the complete venting of all parts of the system, this Contractor shall install automatic, float-operated air vents, Sarco No. 13-W, or approved equal capable of venting all air and at the same time preventing the escape of water. Provide valve on cock before each vent.
- B. Each float-operated vent shall be provided with a suitable vent line carried to the nearest floor drain, slop sink or other approved point of discharge.



- C. Access door shall be provided for installation by General Contractor where access to vents is required.

#### 2.21 VACUUM BREAKERS

- A. Provide vacuum breakers to automatically relieve vacuum from pipe or vessels installed. Vacuum breakers shall be constructed of bronze or stainless steel with 3/4 inch threaded connection. Vacuum breakers shall be adjustable from 1/4" to 20" Hg vacuum relief setpoint. Maximum working pressure shall be 150 psig and maximum operating temperature shall be 240°F. Vacuum breakers shall be manufactured by Hoffman, Bell & Gossett, or approved equal.
- B. Valve shall have double seats of stainless steel. It shall be adjustable for temperatures between approximately 110°F to 160°F, with an initial setting of 140°F.
- C. Regulating valve shall be of size shown on the drawings and shall be installed in the location indicated, with the bulb inserted in the heater tank. The excess flexible tubing shall be neatly coiled and secured so as to prevent damage to it. A Y-type strainer shall be installed in the steam line before the regulating valves.
- D. Valve shall have iron or semi-steel body with stainless steel trim. Temperature regulator shall be by Lawler, Robertshaw, Powers & Sarco.
  - 1. Type 304 stainless steel retention vessel (Model SRV-816).

#### 2.22 AIR ELIMINATOR AND DIRT SEPARATOR

- A. Provide as shown on the drawings a full flow coalescing type combination air eliminator and dirt separator for the **hot**, water systems. Selection shall be based upon system flow with pipe size as a minimum in accordance with the basis of design. In no case shall entering velocity exceed 10 feet per second.
- B. Separator shall be fabricated steel, rated for 150 psig working pressure, stamped and registered in accordance with ASME Section VIII, Division 1 for unfired pressure vessels, and include two equal chambers above and below the inlet / outlet nozzles. The vessel diameter and height above and below the inlet / outlet connections must be equal to the basis of design.
- C. Unit shall include internal Spirotube elements filling the entire vessel to suppress turbulence and provide air elimination efficiency of 100% free air, 100% entrained air, and 99.6% dissolved air at the installed location. Dirt separation efficiency shall be a minimum of 80% of all particles 30 micron and larger within 100 passes. The elements must consist of a copper core tube with continuous wound copper wire medium permanently attached and followed by a separate continuous wound copper wire permanently affixed.
- D. Each unit shall have a separate venting chamber to prevent system contaminants from harming the float and venting valve operation. At the top of the venting chamber shall be



an integral full port float actuated brass venting mechanism. Units shall include a valved side tap to flush floating dirt or liquids and for quick bleeding of large amounts of air during system fill or refill.

- E. Unit shall include removable lower head for internal inspection
- F. Air eliminator / dirt separator shall be the Spirovent Series VDN or VHN as manufactured by Spirotherm, Inc., Glendale Heights, Illinois or approved equal.

### **PART 3 – EXECUTION**

#### **3.01 INSTALLATION OF PIPING**

##### **A. General:**

1. Piping shall be installed in neat and workmanlike manner parallel to walls, column center lines but sloped to drain. Work of each trade shall be fully coordinated to provide the design systems without interference between systems. Piping shall be accurately cut, reamed and threaded with sharp dies. Copper piping work shall be performed in accordance with best practices requiring accurately cut clean joints and soldered in accordance with the recommended practices for the materials and solder employed.
  - a. Piping shall be dripped to drain at a constant slope of 1" in 40 feet. All air pockets at top of risers shall be vented, all low points shall be drained to permit full system draindown.
2. Minor piping and electrical facilities associated with instrumentation and control are not shown. Interconnection of sensors, transducers, control devices, instrumentation panels, etc. is the responsibility of the Contractor and is included by reference in the plans and specifications. Small piping associated with water cooling, drips, drains, and other minor piping may not be indicated to avoid confusion in the plan presentation but shall be provided as part of the contract work.
3. Piping shall be installed so as not to interfere with plumbing fixtures and electrical lighting outlets which must be accurately centered and located. Special attention shall be given to piping above ceilings, which must be kept a sufficient distance from the lighting outlets to permit later installation of the lighting fixtures and their reflectors. Consult with other trades for exact locations of their fixtures, piping and equipment.
4. Arrange and install piping as indicated, straight, plumb and as direct as possible, form right angles on parallel lines with building walls. Keep pipe close to walls, partitions and ceilings, offset only where necessary to follow walls, as directed.



5. Locate groups of pipes parallel to each other and space them at a distance to permit access for servicing valves. Risers shall not have couplings in runs from one floor outlet to the next.
6. The installation of copper tubing shall be accomplished in such a way as to not touch or come in contact in any way with ferrous metals. Where copper tubing piping or fittings may come in contact with ferrous metal anchors, supports or construction, an insulating non-conductor spacer, similar to lead, rubber, or an approved equal, shall be installed to assure prevention of electrolysis.

B. Fittings:

1. Pipe blending shall be in accordance with the recommended practices of the Pipe Fabrication Institute. Only material conforming to ASTM A106S and A53A may be bent. Sizes below 2" may be bent if filed; sizes 2" and larger shall have factory-fabricated bends. Minimum radius and tangent lengths for field bent piping are indicated in the following table:

<u>Size</u>	<u>Minimum Radius</u>	<u>Minimum Tangent</u>
1/2"	2 1/2"	1 1/2"
3/4"	3 3/4"	1 3/4"
1"	5"	2"
1 1/4"	6 1/4"	2"
1 1/2"	7 1/2"	2 1/2"
2"	10"	3"

2. Piping size change shall be accomplished by reducing ell, reducing tee. Eccentric reduction shall be applied in all piping requiring continuous drainage such as steam, condensate and blowdown piping. Concentric increasers shall be used where flow is in direction of increased size. Provide eccentric reduction, top flat, at pump suction reductions.
3. All welded piping shall be butt welded at circumferential joints. Flanges shall be weld-neck type or slip-on type flanges. Materials and methods for each type and class of piping are generally specified for particular services in this specification.
4. Companion flanges at equipment or valves shall match flanges construction of equipment or valve. Raised face shall be removed at companion flanges when attached to flanges equipped for flat face construction.
5. Gaskets and bolting for steam systems shall be applied in accordance with the recommendations of the gasket manufacturer and bolting standards of the Code for Pressure Piping (ANSI B31.1.0-1967 par. 108, 135). Strains shall be evenly applied without overstress of bolts.



6. Screw threads (ANSI B31.1.0 par. 135.4) shall be made up with piping compound or other sealing method approved to assure tight joints without overrun of thread into fittings. Compounds shall be approved for service application.
7. Threaded pipe shall be carefully cut, reamed or filed out to size of bore removing all chips, worked into place without springing. Provide Teflon tape on the male thread only. Threaded joints when tight shall not expose more than two full threads.
8. Reduction in horizontal water circulation piping shall be made with eccentric reducers with the straight side at the top and the reduction in horizontal steam and condensate return piping shall be made with eccentric reducers with the straight side at the bottom. Use of bushings shall not be permitted.
9. Copper tubing shall be carefully cut, reamed or filed out to size of bore and worked into place without springing.
10. Dielectric couplings or brass adapters suitable for dielectric service shall be provided at pipe connections between steel or cast iron piping and copper piping.

C. Expansion Requirements:

1. All piping shall be installed throughout the project with due regard for expansion to prevent damage to the building, equipment and piping. Provide anchors, loops or approved type expansion joints where indicated or required for the accurate control of movement.
2. Branch connections to mains for heating risers, and radiation shall be made with minimum of three 90° elbows.
3. Bullhead connections in any piping service are expressly prohibited.
4. Expansion pipe loops shall be supplemented with adequate guides as close to loops as possible to preserve alignment and pitch.
5. Securely support pipe anchors, constructed of steel angles and channels, required to keep pipe movement within area of expansion provision. Submit anchor details for approval before installation.
6. Provide adequate expansion allowance for service temperatures and piping materials.
7. When installing piping with loop or bend expansion, subject piping to cold spring, which will take care of about half of total expansion between hot and cold conditions. Make riser offsets in manner to avoid pocket forming due to expansion. Submit anchor details for approval before installation.



D. Sleeves:

1. Mechanical trades shall set all sleeves for their pipes, and equipment. General Contractor shall build sleeves in during construction.

E. Concealed Piping:

1. Where so indicated or specified, piping shall be concealed in building construction. Install such piping in time so as not to cause delay to work of other trades, and allow simple time for tests and approval, do not cover before approval is obtained. Wherever possible, run branches passing through floor into partitions, offset above floor close to equipment and expose only as much as necessary for final connection.
2. Where furred spaces are indicated, keep pipes as close to structural members as possible so as to require minimum furring. In case of furred beams, obtain approval of resulting headroom clearance before installing pipes. This Contractor is cautioned to check clearances on General Construction Drawings.

F. Grooved End Piping:

1. Grooved joint piping systems shall be installed in accordance with the manufacturer's (Victaulic) guidelines and recommendations.
2. All grooved couplings, fittings, valves, and specialties shall be the products of a single manufacturer. Grooving tools shall be of the same manufacturer as the grooved components.
3. The gasket style and elastomeric material (grade) shall be verified as suitable for the intended service as specified. Gaskets shall be molded and produced by Victaulic.
4. Grooved end shall be clean and free from indentations, projections, and roll marks in the area from pipe end to groove for proper gasket sealing.
5. A Victaulic factory-trained field representative shall provide on-site training for contractor's field personnel in the proper use of grooving tools and installation of grooved piping products. Factory-trained representative shall periodically review the product installation. Contractor shall remove and replace any improperly installed products.

G. Press Fittings

1. If the Contractor elects to use press fittings all pipe fitters shall obtain field training from the fitting manufacturer and shall have a certificate indicating that they have had the required field training.





2. Steel Pipe

- a. Pipe ends shall be cut on a right angle (square) to the pipe. Pipe ends shall be reamed chamfered and all paint, laquar, grease, oil or dirt shall be removed from the pipe end with an abrasive cloth or pipe end prep tool. Visually examine the fitting sealing element to insure there is no damage, and it is properly seated into the fitting. Insert pipe fully into the fitting. Make a mark with a felt tip pen on the pipe at the face of the fitting. Always examine the pipe to insure it is fully inserted into the fitting prior to pressing the joint. Press fittings shall be joined using pressing tools. Press fittings shall be installed according to the most current edition of installation guidelines. Sealing elements shall be verified for the intended use. Installers shall attend a Vitaulic, Nibbco or approved equal Press installation training class.
- b. After press fittings have been installed pressurize the system utilizing air, water, or dry nitrogen, to greater than 0.5 psi not to exceed 600 psi. Inspect the system for un-pressed fittings, if no un-pressed fittings are found proceed to pressurize the system per the local code. Should un-pressed connection be found ensure the pipe is fully inserted into the fitting and press the fitting. Resume test procedure as per tests required by system type, after the necessary repairs have been made.

3. Copper

- a. Press bronze, or copper fittings: Pipe ends shall be cut on a right angle (square) to the pipe. Pipe ends shall be reamed and chamfered, all grease, oil or dirt shall be removed from the pipe end with a clean rag. Visually examine the fitting sealing element to insure there is no damage, and it is properly seated into the fitting. Insert pipe fully into the fitting. Make a mark with a felt tip pen on the pipe at the face of the fitting. Always examine the tube to insure it is fully inserted into the fitting prior to pressing the joint. All fittings ½-inch thru 4-inch shall be joined using press tools. 2-1/2-inch thru 4-inch s copper fittings shall utilize XLC Rings, and 2-1/2-inch thru 4-inch bronze fittings shall utilize XL Rings. Press fittings shall be installed according to the most current edition of the manufacturer's installation guidelines, Vitaulic, Nibbco or approved equal. Sealing elements shall be verified for the intended use. Installers shall be trained by manufacturer's representative.
- b. After press fittings have been installed a "step test" shall be followed. Utilizing air, water, or dry nitrogen, pressurize the system not to exceed 85 psi. Check for leaks. If leaks are not found proceed to pressurize the system to the recommended pressures, not to exceed 600 psi. Should a leaking joint be found that has not been pressed, relieve the pressure from the system, ensure the tube is fully inserted into the fitting and press the fitting. Resume test procedure, after the necessary repairs have been made.

3.02 HYDRONIC SYSTEMS (HOT WATER):



- A. Mains, risers, branches and connections shall be of sizes and arrangements as indicated. Provide shut-off valves in feed and return main branches and where indicated. Provide valved drains at all low points and air vents at all high points in system.
- B. The HVAC Contractor shall provide cold-water piping from valved outlets, provided by Plumbing Contractor, to fill hydronic systems. Provide approved combination back flow preventer and automatic feed water pressure regulator on make up water lines, Watts or approved equal.
- C. Grade piping so that when system is filled, air in mains and risers will be carried up and discharged at venting points. Feed connections shall come off bottom of mains. Provide swing loops as indicated for expansion. Changes in sizes of horizontal runs of piping shall be made with inverted eccentric fittings.
- D. Unless otherwise shown, provide for each hydronic system a self-acting pressure relief bypass between the main supply and return water piping to relief pressure when control valves close. The bypass shall consist of a piping connection two sizes smaller than the largest supply main and a pressure relief-sustaining-backpressure valve similar to Watts Series 116.

3.03 FUEL OIL SYSTEM:

A. General

- 1. All piping shall be installed complete per latest B.S. & A. rules and regulations. Pipe lines shall be pitched in the direction indicated on the drawing, at least 1" in 10 feet, unless otherwise shown. Except for the fuel gauge and vent all underground piping shall be provided with six (6) elbow swing joints with arms of ample length to permit movement of the pipe or tank without impairing the efficiency of the pipe connections as shown on the drawings, and shall be constructed that any settlement of a tank will tend to tighten the threads in the swing joints. Provide dielectric fittings between dissimilar metal joints. All pipes shall be uniformly back graded to tank.
- 2. Pipe threads shall be cleaned out and tapered. All pipe shall be reamed free from burrs. All piping shall be kept free of scale and direct. Threaded joints shall be made up with graphite in oil or other pipe compounds as approved, applied to the male threaded only. Caulking of the thread will not be permitted; fittings shall be broken out and threads tightened. All pipe shall be threaded and make up in accordance with the ASA Standard Specification for pipe threads.
- 3. All valves, piping, and specialties necessary to produce a complete and satisfactory fuel oil supply system shall be provided, whether specifically mentioned in these specifications or not.



- 4. All piping shall run parallel to lines of the building unless otherwise distinctly shown or noted on the drawings.
- 5. Piping underground shall be laid in a 6 inch envelope bed of salt-free sand. Backfill as specified in this Section.

B. Suction and Return Lines

- 1. Oil suction and return lines shall be carried to a top of tank manhole as shown on the drawings. All oil suction and return piping between tanks, pumps, and heater sets shall be provided complete. Overhead lines shall be pitched toward tanks. In lieu of elbows, use tees with brass plugs (for cleaning purposes) in suction lines. Include an OS&Y valve in each suction line in the location shown.

C. Fill Line

- 1. Each fill line shall not be less than 2 inches. It shall extend two (2) inches into the tank and terminate at grade with approved fill box, labeled per NYCRR Part 614, equipped with watertight brass cap where shown on the drawings. Fill line shall be back graded uniformly to tank. Fill box shall be cadmium plated cast iron with cast brass cap. Fill box shall be located so that a 15-foot length of hose will reach from oil truck to fill box.

D. Vent Line

- 1. Tank vent line shall be of the size indicated on drawings. Vent shall not exceed more than one inch thru top of tank. Vent shall be terminated not less than 2 feet nor more than 12 feet above fill pipe terminal, unless otherwise distinctly shown on the Contract Drawing. Install approved weatherproof vent cap having a free areas of at least the pipe size area. Vent line shall be pitched toward tank.

3.04 PIPE SUPPORTS, HANGERS AND INSERTS

A. Support horizontal piping in accordance with the following schedule:

<u>Pipe Size</u>	<u>Maximum Hanger Spacing</u>	<u>Rod Size</u>
1" and smaller	6'-0"	3/8"
1 1/4" to 2"	9'-0"	3/8"
2 1/2" to 4"	10'-0"	1/2"
6" to 8"	10'-0"	3/4"
Larger than 8"	10'-0"	1"

B. Support vertical piping with clamps attached to the pipe, resting on the floor slab. In general, one clamp for each two floors, one clamp at each floor for copper tubing. Where pipes are in open shaft, provide forged steel bar brackets to wall.



- C. Support hangers from concrete inserts, toggle bolts, or beam clamps. Furnish, locate a set such inserts and make sure that such inserts are in place when the concrete is poured. Construct inserts of malleable iron or pressed steel with space for rods of all sizes. Install all inserts for pipes 3" and larger in size with a reinforcing rod 5/8" in diameter, run through a slot in the insert specifically provided for this purpose.
- D. If any pipe has to be hung in spaces where no inserts have been provided, drill holes in the slab and provide rods and hanger attached to an approved fishplate or install 2 Star No. 7000 double expansion shields connected by a 2" x 2" angle, from which suspended the hanger rod. For pipe size 2" and under use single No. 7000 shields, but the hanger spacing defined hereinbefore reduced to 5'-0". The carrying capacity and size of each shield to be calculated on the basis of the spacing indicated above the minimum size to be 3/8". Install additional shields of the same size so that the number of hangers are of adequate size to support the loads which they carry. Shields may be used in concrete slabs only.
- E. Regardless of the type of construction (i.e., concrete, concrete-deck-steel, terra-cotta tile or other variations) take particular care to support all main lines and all large and heavy pipes in an approved manner, including the furnishing and installation of supplementary steel, if required. Submit shop drawings, indicating support methods, point loadings to the building structure and hanger locations for review sufficiently in advance of concrete pouring schedules to permit evaluation, critique and any necessary changes to handling and support methods.
- F. Set all inserts for all pipes in ample time to allow concrete work to be performed on scheduled time.
- G. Hangers may be directly bolted to steel beams of building construction, where they occur. Smaller pipes may be suspended from cross-pieces of pipe or steel angles, which in turn, to be securely fastened to building beams or hung from building concrete construction by means of rods and inserts, or hung from building terra-cotta tile construction by means of toggle bolts and rods. The intention is to provide supports which, in each case, shall be amply strong and rigid for the load, but which will not weaken or unduly stress the building construction.
- H. Provide approved roller support, floor stands, wall brackets, etc. for all lines running near the floor or near walls, which can be properly supported or suspended by the floors or walls, which can be near walls may also be hung by hangers carried from approved wall brackets to a higher level than the pipe.
- I. Do not hang piping from other piping. Support of hangers by means of vertical expansion bolts is not permitted.
- J. Whenever hangers using pipe rolls are used provide approved steel pipe covering protection saddles, spot welded to the piping at each hanger location.



- K. Anchor piping where required to localize expansion or to prevent undue strain on piping and branches. Anchors to be entirely separate from hangers and of heavy forged or welded construction of approved design. All anchor designs, when submitted for approval, to include piping reactions which respective anchors are capable of supporting. Provide all indicated or required expansion loops.
- L. Support all line of copper tubing individually by approved type hangers not more than 6' apart, or as shown on the drawings. Hangers for Uncovered Tubing: Broad straps fitting outside of covering.
- M. Hangers for cold piping to support the pipe without piercing the insulation. Use insulation shields to protect the insulation on cold pipes. Weld insulation protection saddles to insulated hot pipes at roller supports. Wherever fibrous glass pipe insulation is installed install calcium silicate of equal thickness in lieu thereof wherever hangers and insulation shields shall bear only on an insulation material which is of such density that it will not compress, crush or deform.
- N. This Contractor may coordinate with other Contractors to use common means of support. Submit for approval all pertinent design data relating to the support as well as verification of the responsibility for the support.
- O. Support vertical water piping at approximately the mid-height of the riser (unless otherwise indicated) using a clamp, installed so that expansion and contraction does not cause trapping of air or prevent drainage.
- P. For piping 4" and larger, support the elbows of the piping adjacent to the pumps with steel supports from the floor, and from the inertia base where pump is on such a base, to prevent loading heavy weights of piping on pump casings.

### 3.05 SLEEVES

- A. Provide sleeves for all pipes passing through floors, walls or partitions, hung or furred ceilings, etc. (of sufficient diameter to accommodate pipe covering where such is required). Set sleeves for concrete floors, walls and other masonry work in place so that space all around the pipes, after the pipes are installed in place, are about equal.
- B. Protect pipes passing through floors with membrane waterproofing and roofs with Schedule 40 pipe extensions (not sheet metal) and provide "Zurn Z-197" or "Josam 1880" with cast iron integral flashing flange and clamping ring waterproof type pipe sleeves. For membraned floors, fill void between sleeve and pipe with mineral wool and then seal the top with mastic to prevent sound transmission. Sleeves for Penetrations of the Metal Deck (where applicable): Nail, Cut or drill the metal deck after the deck is poured. Set sleeves in such a manner so that no concrete fills their interior during the concrete pouring and screening operations.
- C. Sleeves for Reinforced Concrete Walls and in Concrete Beams: Standard weight galvanized steel pipe with anchor flanges. Sleeves through Toilet Rooms and any other



such Wet Area Floors: Iron pipe size brass. Caulk floor sleeves for exposed pipes watertight and project approximately 2" above the finished floor so that the plate will properly fit over the same. Finish sleeves flush with the bottom of slab and also with the finished faces of wall.

- D. Provide sleeves with an inside diameter at least 1/2" greater than out-side of pipe served, including pipe insulation which must be continuous through sleeve.
- E. Use LINK-SEAL, GPT, Cooper Industries or approved equal only for pipes and sleeves in exterior walls, foundation walls and pits. Where piping penetrates walls (other than foundation walls), partitions, floor slabs, etc., pack space between piping and sleeve with mineral wool.
- F. Do not support pipes by resting clamps on sleeves. Clamps must extend beyond sleeve and be supported outboard of sleeve in an approved manner.
- G. Provide escutcheon plates of the proper size for all piping in sleeves passing through walls, furrings, partitions, hung ceilings, etc. throughout the building where exposed to public and/or tenant view. All exposed escutcheons of cast brass, bell type, with set screws and chromium plated and of sufficient diameter to include any required pipe insulation.
- H. Provide counterflashing for all piping passing through waterproof wall or roof construction consisting of steel rainhood welded all around to pipe and overlapping flashing.
- I. Where space for future pipe and conduits is required, provide sleeves and fill with lightweight concrete.
- J. Firestopping and grouting around pipes and ducts through concrete slabs and walls, and masonry walls with Portland cement grout in the sleeved opening extending full depth through wall or floor slab, with sheet metal over the insulation before grouting in. Around pipes and ducts through drywall construction wrap mineral rope and finish with sheet metal collar on ducts and escutcheons on pipe. Attach escutcheons to wall, not pipe. Use at all fire-rated walls and floors.
- K. Where piping penetrates mechanical room floor slabs provide 4" concrete curb around pipe penetrations.

### 3.06 VALVES

- A. No valve shall be installed with stem pointing down below the horizontal without the approval of the Commissioner.
- B. Install valves so that they are accessible for repacking. Install with operating clearance for handle and stem.



- C. On equipment isolation valves install so that valve and piping do not interfere with equipment removal or maintenance. Install unions or flanges on equipment side of valves unless valve is flanged type.
- D. Provide valves of a design permitting packing while open and under pressure.
- E. Provide shutoff valves in supply and return to reach item of equipment such as pumps, tanks, coils, traps, automatic valves and similar items. Valves shall be suitably located to isolate each unit to facilitate maintenance or removal of all equipment and apparatus. Valves 2 1/2" and larger shall be flanged 2" and below shall have a union installed between valve and equipment.
- F. Provide a gate valve in the common supply line and an individual combination balancing/shut-off valve and flow measuring station in the return line from each water coil, and all water using heat transfer elements.
- G. Provide a gate valve on supply risers near main and a combination balancing/shut-off valve and flow measuring station in each return riser near main.
- H. Provide drains at low points of all liquid piping systems including each riser. Locate drain valves in Mechanical Equipment Rooms not higher than 6' above floor and pipe to nearest floor drain. Provide capped drain cocks with threaded ends for hose connections at all other drain points. Provide one 100' length of heavy duty 1" hose.
- I. Provide all valves 8" and larger with a rating of over 150 lbs. with a 1" bypass valve of same pressure rating as the bypassed valve.
- J. Provide renewable bronze seat rings and bronze spindles for all cast iron body valves.
- K. Use combination balancing/shut-off valve and flow measuring station for all throttling service, and where noted on the drawings.
- L. Provide lubricated tapered plug cocks with the manufacturer's proper lubricant for water service before shipment to the job site. Furnish four (4) hand wrenches for each size valve, where gear operators are not required.
- M. Safety valve discharges shall be piped and extended through the roof. At the bottom of the riser provide a drip pan elbow. From the drain and the elbow provide a common 3/4" drain line extended to discharge down 6" above the nearest floor drain.
- N. Provide all other hand valves, check valves, cocks, etc., as required for the complete and proper valving of the entire installation.

### 3.07 WELDING



- A. Welding Process: All welding shall be done by the oxyacetylene or electric arc welding process in accordance with the requirements set forth in Welding or Pipe Joints of the ASME Code for Pressure Piping.
- B. Beveling and Welding: All steel pipe 2 ½" and larger may be purchased mill beveled or shall be machine beveled on both ends before welding. On odd lengths of pipe, beveling may be accomplished by means of the oxyacetylene cutting torch providing all paint, rust, scale and oxide are carefully removed with hammer, chisel or file. Joints shall be prepared and welded to assure thorough fusion with bare metal, complete penetration, maintenance of alignment, and the production of a joint that shall develop the full strength of the pipe and shall be leakproof in service.
- C. Welding Rods: The welding rod used for welding shall be Oswald No. BT or approved equal.
- D. All foreign matter shall be removed from the ends of pipe lengths before tacking and welding. Pipe lengths shall be lined up straight and abutting pipe ends shall be concentric. Spacing and tack welding shall be such as to prevent the pipe from lapping or getting out of alignment during welding operation.
- E. All welding shall be done in accordance with the latest accepted practice applicable to the particular service and shall be performed only by welders who have been tested and qualified in accordance with the requirements of the ACA Piping Code for Welding. The Contractor shall furnish a certificate for each welder, certifying that the welder complies with these Specifications and of the National Certified Pipe Welding Bureau.
- F. All welded pipe connections shall be painted in an approved rust inhibitor ("extend" by Permatex or equal) prior to insulating.
- G. Welders shall be licensed by New York City Department having jurisdiction to issue licenses.
- H. The welding of high pressure piping shall be tested in accordance with Section MC 1210.4 of the New York City Mechanical Code and require Special Inspections in accordance with Section BC 1704.17 of the New York City Building Code.

### 3.08 STRAINERS

- A. Provide approved self-cleaning strainers in inlet connections to each feeder and make-up connection, each automatic control valve and all automatic devices whose proper functioning would be affected by solids in the fluid.
- B. Except as noted, strainers in water lines to be Y-pattern set in a horizontal (or vertical downward) run of the pipe. Where it is not feasible, strainers may be of enlarged cross-section flat type. In all cases, arrange strainers as not to "trap" pipes, and to facilitate disconnection and opening-up for cleaning.





- C. Provide approved valved dirt blowout connection for each strainer. Each valve located at hand-height and piped to the nearest floor drain, at a point where there is no risk of flooding or damage.
- D. Clean the strainers as necessary until accepted by the City of New York.
- E. Install strainers upstream of automatic control valves with the same size as the inlet pipe serving the control valve.

### 3.09 AIR VENTS

- A. Provide soft temper copper tube pigtail on manual vents so that end can be placed over a bucket.
- B. Provide all manual air cocks and automatic air vents required throughout the water circulating system for the removal of air, of ample strength for the pressure to which they will be subjected. Provide automatic air vents at all high points.
- C. Provide air vents of the compression type, all bronze construction, key operated. Provide each heat transfer element supplied with water with not less than 1/2" manual air vent. Furnish ten (10) keys. Provide air chambers where indicated.
- D. Use inverted ball float traps for vent water risers, mains and branches and where required. Trap Size: 3/4" with inlet and overflow connections, both valved.
- E. Provide manual air vent valves in the piping connections to each hot water heating coil and each chilled water coil (both supply and return where such are not automatically vented). Provide a 1/4" vent line from each air vent to nearest floor drain, or as directed, to suit job conditions.
- F. Provide gate valves with capped bibb connections at all drain points. Hose bibbs only will not be acceptable. Install capped drains at all low points of the systems. Threads of hose bibbs to fit standard rubber hose connection.

### 3.10 SENSOR PIPE WELLS

- A. Provide sensor wells in piping system for automatic temperature controls.
- B. In Victaulic grooved piping systems, seismic motion shall be accommodated by installing swing joints consisting of flexible couplings, pipe nipples and elbows that provide simultaneous movement in all directions, or other seismic movement compensation devices such as loops, offsets, or Style 155 expansion joints (when an in-line device is required) to provide flexibility to the system and help reduce pipe stresses. Refer to Victaulic design submittal #26.12.

### 3.11 SEISMIC REQUIREMENTS



- A. Piping systems which are required by code to be seismically supported shall be supported and properly braced in accordance with 2008 New York City Building Code. Transverse and longitudinal bracing shall be provided as per 2008 New York City Building Code.
- B. Seismic plans and calculations shall be prepared and signed by a Professional Engineer with experience in seismic design.

### 3.12 PIPING SYSTEM TESTS-GENERAL

- A. Each piping system shall be tested prior to being concealed and prior to application of insulation, painting or placing of backfill. Testing as stipulated herein shall be considered minimum, and where tests stipulated by lawfully jurisdictional authorities exceed these requirements, such more stringent tests shall be performed.
- B. All materials and equipment for testing shall be furnished by the installer of the system. Concealed work shall remain uncovered until required tests have been completed. In the event that the project construction schedule requires it, make arrangements and insert proper sectionalizing devices so that a portion of a system may be tested.
- C. All piping, unless otherwise specified, shall be tested to a hydro-static pressure at least 2 ½ times the maximum designed working pressure (but not less than 50 psig) for a sufficiently long time to detect all leaks and defects, and after testing, shall be made tight in the most approved manner.
- D. Where controls and accessories are not designed to withstand pipe test pressures, they shall be properly protected against damage during such tests.
- E. Compressed air piping for temperature control line shall be subjected to an air pressure test of 50 psig and connections checked with soap suds.
- F. If in any tests leaks are observed, the defective work or material shall be replaced. No caulking of screw joints or holes will be acceptable. Repetition of the entire test will be required as many times as leaks can be observed from the tests, until no leaks result in successful completion of the test.
- G. Make all provisions for removal of test equipment and draining of pipes after tests have been completed. Insulation work shall not be performed prior to inspection and testing of piping.
- H. The Contractor shall inform the Commissioner in writing when a section of piping is to be tested and subsequently insulated or otherwise concealed. Such notice shall be given a minimum of five (5) working days prior to the start of testing.
- I. Where possible, arrange to conduct tests under constant ambient temperature conditions in order that compensation for temperature change is not necessary.



3.13 PIPING SYSTEM TEST – HYDRONIC SYSTEMS (HOT WATER )

- A. All equipment and piping shall be thoroughly cleaned of iron cuttings and other refuse during assembly and installation.
- B. Pressure tests shall be performed on all piping before equipment is hooked up to the piping.
- C. Before testing piping systems, remove or otherwise protect from damage control devices, air vents, other parts which are not designed to stand pressure used in testing piping.
- D. Test welded piping systems, under 100 psi pressure (air) with soap suds.
- E. After air tests have been performed and all leaks repaired, test piping hydrostatically to one and one half times the maximum working pressure, but in no case to less than 150 psi. Hydrostatic test pressure shall remain constant without pumping for at least two (2) consecutive hours.

3.14 PIPING SYSTEM TEST – FUEL OIL PIPING

- A. Fuel oil supply and return piping shall be tested hydrostatically at 2 ½ times the operating pressure for a duration of two (2) hours. Suction lines shall be tested under vacuum at not less than 20 inches of mercury for a duration of two (2) hours.

**END OF SECTION 232113**



NEW YORK CITY DEPARTMENT OF  
DESIGN + CONSTRUCTION

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## SECTION 232500

### CHEMICAL CLEANING

#### PART 1- GENERAL

##### 1.01 GENERAL REQUIREMENTS

- A. Work of this Section, as shown or specified, shall be in accordance with the requirements of the Contract Documents.
- B. 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]

##### 1.02 WORK INCLUDED

- A. Work of this Section includes all labor, materials, equipment and services necessary to complete the Water Treatment and Chemical Cleaning as shown on the drawings and specified herein, including, but not limited to, the following:
  - 1. Hot Water System.

##### 1.03 QUALITY ASSURANCE

- A. Mechanical equipment, cleaning chemicals, treatment chemicals, control equipment and services by a single water treatment consulting firm for undivided responsibility.

##### 1.04 SUBMITTALS

- A. Shop Drawings: System installation drawings, wiring and piping diagrams and sequence of operation.
- B. Product Data:
  - 1. For each component, device, pump, time clocks, storage tanks, controller, valve etc.
  - 2. Chemical products being supplied, including cleaning chemicals.
- C. Test Report:
  - 1. Obtain analysis of raw water from the City water.



D. Manufacturer's Instructions:

1. Recommended feed rates of each chemical product.
2. Recommended operating conditions for each system including cycles of concentration, chemical test limits and limits of water treatment system set points.
3. Certificate of Cleaning: By the cleaning chemical supplier.

1.05 CHEMICAL SUPPLIES

- A. Provide adequate chemicals for pipe cleaning.
- B. Provide chemicals for one year of operation.

1.06 SURVEILLANCE PROGRAM

- A. Provide one year of consulting surveillance inspections and water treatment services with check-analysis procedures once each month.
- B. Field Surveillance Inspection: Visit site and review field test procedures and water control reports, inspect chemical feeding equipment and recommended modifications to program necessary to improve results.
- C. Field surveillance inspection and check-analysis procedure shall be supported by written report sent to the Commissioner.
- D. Commence surveillance with start-up of system and continue for one calendar year.
- E. End surveillance with lay-up program including corrosion protection of open systems.

**PART 2- PRODUCTS**

2.01 MATERIALS

- A. Chemical Cleaning and pretreatment:
  1. Provide all dispersants, scale inhibitors and corrosion inhibitors as required for cleaning and treating all piping systems. Chromates shall not be used.
- B. Water Treatment:



1. Provide all biocides and biodispersants as required to treat water systems for the prevention of microbiological growth. Chromates shall not be used.
2. Provide a Venturi chemical feed fitting and system for each system to be treated. Fittings shall be Nalco bioductor or approved equal.
3. Provide all controls and equipment required for an automatic bleed and chemical feed system.

### **PART 3- EXECUTION**

#### **3.01 CHEMICAL CLEANING AND PRETREATMENT**

- A. Flush piping systems with the approved cleaning chemicals to remove pipe dope, slushing compounds, cutting oils and other loose extraneous materials. Seal ends after cleaning.
- B. The chemical supplied shall:
  1. Satisfy the proper feed rates.
  2. Check that the cleaning solution is actually in each system.
  3. Satisfy when to flush the system.
  4. Check each system following flushing to ensure cleaning chemicals have been removed from each system.
- C. Block modulating valves, zone valves and other system restrictions.
- D. Provide portable pumps to circulate water for cleaning purposes at respective flows for four (4) hours. Remove and clean strainers. Blow off low points with steam after cleaning and before traps are installed. Drain entire system.
- E. Chemical used for cleaning of systems shall comply with the recommendations of the manufacturers of the major components in the system and shall be approved for use.
- F. Upon initial fill (following system flushing) the approved chemicals which provide a protective coating to prevent oxidation of the cleaned system shall be added.

#### **3.02 WATER TREATMENT**

- A. Install water system including piping and wiring in accordance with manufacturers instructions.



- B. After chemical cleaning and pretreatment of piping systems, analyze water systems to determine specific biocides and inhibitors to be used.
- C. Add the necessary blend of inhibitors, biocides and dispersants for proper control of corrosion, scaling and microbiological growth. Submit in writing the recommended feed rate of all chemicals and bleed rate of all systems.
- D. Deliver and install all chemicals needed for one year service.

3.03 FIELD QUALITY CONTROL

- A. Instruct maintenance personnel in the operation of systems installed. Secure written confirmation that instruction has been provided.
- B. Perform field test procedures and issue reports of such test.

3.04 CLEANING OF HEATING PLANT

- A. After the entire heating plant has been erected and vacuum traps have been installed, the plant shall be cleaned by operating it for a period of three (3) consecutive 8-hour working days with the boilers on low fire. During this period, the vacuum pumps shall not be operated, the return condensate being wasted to the sewer. At the end of this period all float and thermostatic traps throughout the building shall be thoroughly cleaned and left in perfect working order. At this time, the mud leg drains of each boiler shall be opened and the mud legs shall be flushed out by means of water hose.
- B. After the boilers are cleaned the fire chambers, tubes and breechings of boilers shall be completely wire brushed and all soot shall be removed with a vacuum cleaning machine suitable for this purpose. In the event that the outside of boilers, piping, breeching, etc., have an accumulation of dirt, the dirt shall be removed with the vacuum cleaner.
- C. The services of the water treatment specialist shall begin at the conclusion of the cleaning period or at the beginning of the temporary heat period, whichever first occurs, and shall continue until the end of the one year guarantee period. During this time, a certified laboratory report of the water condition of each boiler shall be submitted.

3.05 EQUIPMENT INSTALLATION

- A. Install all equipment specified herein in accordance with manufacturers instruction.

**END OF SECTION 232500**





## SECTION 233113

### METAL DUCTS

#### PART 1- GENERAL

##### 1.01 GENERAL REQUIREMENTS

- A. Work of this Section, as shown or specified, shall be in accordance with the requirements of the Contract Documents.
- B. 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]
- C. Ductwork, fittings, dampers and accessories shall be suitable for the pressure and temperature of device.
- D. Ductwork design drawings are diagrammatic to indicate design intent. The Contractor shall be responsible for establishing grades and elevations, checking of all interferences, providing all fittings, whether or not shown, required accommodating changes in direction or elevation and as necessary to accomplish the intent of the drawings. The Contractor shall verify size and locations of all ductwork in the field prior to the start of installation of equipment and ductwork. The Contractor shall, at his expense, perform all minor rerouting of ductwork around obstructions from new or existing construction whether or not such conditions are indicated on the plans. Minor rerouting of ductwork is defined as any rerouting which requires less than 10 linear feet of additional ductwork (measured along the centerline or its equivalent in fittings) over the above that shown on the drawings in order to avoid an obstruction. Such rerouting shall be performed with ductwork of size equal to that shown in the original rerouting. Whenever an obstruction requires more than a minor rerouting as defined above, the Contractor shall report the condition to the Commissioner prior to the start of ductwork on the effected system. The Contractor shall be responsible for neglect of checking all elevations, clearances, dimensions and locations of ductwork systems prior to the start of work on same.

##### 1.02 RELATED WORK

- A. Insulation.
- B. HVAC Equipment.
- C. Grilles, Registers and Diffusers.
- D. Automatic Temperature Controls.



1.03 QUALITY ASSURANCE

- A. SMACNA.
- B. ASHRAE.
- C. NFPA.
- D. UL.
- E. Comply with requirements of all governing authorities having jurisdiction.

1.04 SUBMITTALS

- A. Shop drawings 3/8" scale, showing ductwork layout indicating size, shop construction details, gauges and installation requirements.
- B. Test Reports: Field testing of air outlet flow.
- C. Samples, when requested.
- D. Reproducible as-built mylar after job completion.

1.05 DELIVERY, STORAGE AND HANDLING

- A. Protect shop-fabricated and factory-fabricated ductwork, accessories and purchased products from damage during shipping, storage and handling. Prevent end damage and prevent dirt and moisture from entering ducts and fittings by installing temporary closure pieces or shrink-wrap on open ends.
- B. Where possible, store ductwork inside and protect from weather. Insulation and acoustic material either loose or installed within ductwork or equipment can absorb damaging moisture and become soiled if left outdoors prior to being installed. Absorbed moisture can foster biological growth and can lead to indoor air quality problems at a later date. Where necessary to store outside, store above grade. To minimize damage all such material or equipment stored outdoors shall be shrink-wrapped prior to shipment to the project. The shrink-wrap shall only be removed once the materials and equipment have been move into enclosed spaces within the building.



## PART 2- PRODUCTS

### 2.01 GENERAL - DUCTWORK AND ACCESSORIES

- A. All ductwork, plenums, dampers and all auxiliary work of any kind, necessary to make the various air conditioning, ventilating and heating systems complete and ready for operation, shall be provided.
- B. The sheet metal work shall be fabricated and installed in accordance with SMACNA Duct Construction Standards and the ASHRAE Handbook. The SMACNA and ASHRAE recommendations shall be considered as mandatory requirements.
- C. The duct system shall comply in strict accordance with NFPA 90A, NFPA 96, the New York City Building Code, New York City Mechanical Code and the ECCCNY (ASHRAE 90.1-2004).
- D. Furnish and install, in an approved workmanlike manner, all the sheet metal work indicated on the drawings and specified herein and required for the heating, ventilating and air conditioning systems. All ductwork indicated on drawings is schematic. Therefore, changes in duct size and/or location shall be made where necessary to conform to space conditions, without additional cost to the City of New York.
- E. Ductwork shall be constructed of galvanized sheet metal unless otherwise noted.
- F. Construct all longitudinal joints with Pittsburgh type seams. A snap lock seam shall not be permitted as a substitute for the Pittsburgh lock at corners of ducts unless factory assembled or if shipped knocked down joints are sealed with duct seal and ends of each section are riveted.
- G. All ducts shall be true to dimensions indicated, and dimensions shall be clear inside dimensions unless otherwise specified. Dimensions given on drawings of all acoustically lined ducts shall be the clear inside dimensions. Smooth transitions shall be installed where acoustic lining ends and non-lined duct begins. Ducts shall be straight and smooth on the inside with neatly finished joints.
- H. Shape all changes in direction, both horizontal and vertical, to permit the easiest possible air flow, using full sized bends wherever possible. All short radius elbows where the center line radius is less than 1 ½ times duct width and square corner elbows shall be fitted with directional flow air turning vanes on both supply, return, intake and exhaust systems.



- I. Fresh air intake plenums and exhaust plenums shall be made watertight at all bottom seams and up to 12" on bottom seams by soldering. Where plenums connect to louvers the bottom pans shall pitch down toward the louver. When bottom pan of plenum connects to drain outside, a 1" drain connection shall be fitted at the lowest point in the bottom pan.
- J. Fresh air plenums, exhaust plenums and mixed air plenums shall be constructed of 16 gauge galvanized steel for ducts 85" and larger and 18 gauge for 84" and smaller.

## 2.02 LOW PRESSURE DUCTWORK

- A. Low-pressure ductwork shall conform to the latest SMACNA "Low Pressure Duct Construction Standards."
- B. Low pressure ductwork shall be defined as all duct with velocities less than 2,500 fpm and static pressures of 0" to 2" (positive or negative).
- C. Ducts with static pressure ranging from 0" to 1" w.g. shall be provided with a Class A seals, Leakage Class 6, however, all joints must be sealed. Seal classification shall be as described in the SMACNA tables. Type and method of sealer shall be as described in this section of specifications.
- D. Continuously weld or braze all longitudinal joints, transverse joints, seams, penetrations, and duct to hood collar connections. All welds to be external and liquid-tight. Duct joints shall be butt joints or overlapping joints. Overlapping joints shall be installed to prevent ledges and obstructions from collecting grease or interfering with gravity drainage to intended collection point. The difference between the inside cross-sectional dimensions of overlapping sections of duct shall not exceed  $\frac{1}{4}$  inch. The length of overlap shall not exceed 2 inches.
- E. Provide 20" x 20" liquid-tight access doors; mounted on the side of the duct, at 20 foot intervals for the entire length of horizontal duct and at every change of direction. For vertical ducts, provide access door at base and top of riser, at the top of the riser, and on each floor. Provide access doors on each side of exhaust fan within 3 feet of fan.
- F. Ducts shall be constructed and installed so that grease cannot collect in any portion thereof, and the system shall slope not less than 2% towards the hood or approved grease reservoir or duct sump. Where horizontal ducts exceed 75 feet in length, the slope shall not be less 8.3% (one in twelve).
- G. Provide a residue trap at the base of each riser with provisions for a cleanout in accordance with NFPA 96.



- H. A performance test shall be conducted upon completion and witnessed by a representative of the FDNY prior to final approval of the exhaust and make-up air systems. The test shall be performed in accordance with 2008 New York City Mechanical Code, Section MC 507.16. The test shall verify the rate of exhaust, make-up air and proper operation as herein specified. The contractor shall coordinate and schedule with the FDNY and provide all necessary test equipment and required devices required to perform the test.
- I. Prior to the use or concealment or wrapping of any portion of grease duct, a leakage test shall be provided in accordance with 2009 International Mechanical Code, Section 506.3.2.5. A light test shall be performed to confirm that all joints are liquid tight. The test shall be performed by passing a 100 watt (minimum) lamp through the entire section of grease duct.
- J. A performance test shall be conducted upon completion and prior to final approval of the exhaust and make-up air systems in accordance with 2009 International Mechanical Code, Section 507.16. The test shall verify the rate of exhaust, make-up air and proper operation as herein specified. The contractor shall provide all necessary test equipment and required devices required to perform the test.

2.03 BOILER BREECHING AND CHIMNEY PREFABRICATED

- A. Provide prefabricated boiler breeching and chimney complete with all fittings and accessories required for complete installation.
- B. Breeching and chimney shall be constructed of double wall 26 ga. galvanized sheet metal (or Type 430 Stainless Steel) with build in 1/2" air space for insulation.
- C. Breeching shall be U.L. listed for Type B applications.
- D. The vertical expansion joint shall have a 1 1/2" overlap and shall be filled with non-setting, low-shear grout. The external joint shall consist of a metal band and refractory felt, the band to be secured to the floor support section.
- E. Supports shall be per manufacturer's recommendations.
- F. Connection between boiler and prefabricated breeching shall be 10 gauge black steel welded with slip joint at connection to breeching tee.
- G. A hinged cleanout door shall be provided at end of each breeching tee and as shown on drawings.



- H. Chimney shall be provided with ventilated roof support, storm cellar, cone flashing, chimney top, guy section and guy wires.
- I. Breeching and chimney shall be provided with extended 10-year warranty.
- J. Breeching shall be manufactured by Metalbestos, Van Packer or approved equal.

2.04 VOLUME DAMPERS

- A. Provide all dampers required for all systems to accomplish the intent of the drawings and specifications. Dampers are to be installed in frames properly caulked to prevent leakage.
- B. Provide manual balancing dampers as required to properly balance the air distribution system. If location of balancing dampers is not defined on the drawings, the following minimum standards shall govern:
  - 1. All supply air main branches from truck, each split, and all subbranches from mains shall have balancing dampers.
  - 2. Exhaust and return main branches from trunk, each split and all subbranches from mains shall have balancing dampers. Balancing dampers shall not be installed in kitchen exhaust, fume hood exhaust, or breeching unless otherwise indicated.
  - 3. Locate damper as far as possible from air outlet to avoid noise transmission.
  - 4. Provide and./or coordinate with General Contractor for easy access to damper, or otherwise furnish remote damper actuator.
  - 5. If damper is not accessible, or is located above a plaster, drywall or millwork ceiling, provide a remote damper actuator and damper as manufactured by Young regulator Model 896-C with No. 1200A right angle worm gear and Model 820 respectively or approved equal.
- C. Opposed blade dampers shall be a minimum of 5" deep and fabricated of 14 gauge galvanized steel blades with an 11 gauge galvanized steel frame. Blades shall have opposed action and shall ride in bronzed bushings on 1/2" steel shafts. Damper blades shall be operated by a common linkage. Units shall be Model CD-400 as manufactured by Louvers and Dampers or approved equal. Manual operated dampers shall have a quadrant-locking device.
- D. Single blade dampers shall not be used for balancing unless otherwise shown.



- E. Parallel blade damper shall be of the parallel blade type with 14 gauge galvanized steel blades and 11 gauge galvanized steel frame. Blades shall ride on bronze bushings with 1/2" stub aluminum shafts. Blades shall be connected by a common linkage. Units shall be as manufactured by Louvers and Dampers, Model CD-500, or approved equal.

## 2.05 FIRE DAMPERS

- A. Fire dampers shall be installed in all rated construction and as shown on the drawings.
- B. Fire damper shall be of the folding blade type, Fire/Seal as manufactured by Air Balance, Inc., or equivalent and shall bear the Underwriters' Laboratories label. Dampers shall meet the requirements of NFPA Bulletin No. 90A and shall be tested in accordance with UL 555.
- C. Fire damper blades shall be located outside of the air stream.
- D. The number of damper sections and location of doors for access to fusible links shall be approved by the Commissioner prior to construction.
- E. End connections to the damper section shall be of the breakaway type to prevent the damper from being pulled out of the wall by a duct failure.
- F. Fire dampers shall be manufactured by Ruskin or approved equal.

## 2.06 FLEXIBLE CONNECTIONS

- A. Provide flexible connections to all supply and exhaust fans to prohibit the transfer of vibration from fans to connecting ductwork. Flexible connections shall comply with UL 181 (Class 0 or Class 1) per the NYC Mechanical Code, Section 603.6.
  - 1. Install airtight flexible connections where ductwork or casings connect to fans. Fasten connection securely with bolted clamps. Make the unclamped portion of the connection not less than 6" long, crimped for flexibility.
  - 2. For fans to 4" w.g. static pressure, 20-ounce chemically impregnated fire-retardant canvas, Ventfabrics, Inc. "Ventfab" or approved equal.
  - 3. For connections for induced draft fans and those exposed to withstanding heat up to 1,000° F, provide two (2) layers of wire-inserted glass cloth and cover with an outer layer of "Ventglass" by Ventfabrics, Inc., or approved equal.



2.07 TURNING VANES

- A. Construct turning vanes of the same material as the ducts in which they are installed.
- B. Construct turning vanes for low and medium pressure systems of 20 gauge galvanized steel or the equivalent thickness for other duct materials as shown in the specification tables.
- C. Turning vanes shall be double vanes as manufactured by Ductmate or approved equal or shop fabricated turning vanes constructed to the same standards. Submit samples of shop-fabricated units for approval.

2.08 ACCESS DOORS

- A. Provide access doors in ductwork, equipment housings and connections thereto for access to all apparatus and accessories, air filters, coils, automatic controls, air monitoring and air flow devices, automatic dampers, damper motors, fire dampers, combination fire/smoke dampers and all other areas and equipment requiring periodic inspection or service.
- B. Construct and install access doors of the same materials and to withstand the same test pressure without deformation, vibration or leakage as the ductwork and casings in which they are provided.
- C. Provide doors in insulated casings and insulated ductwork of the double insulated type with a minimum of 18 gauge sheet metal on both sides of a core of 6-pound density mineral fiber rigid insulation. Gasket doors airtight.
- D. Provide access doors in ductwork, which are less than 24" in height and two (2) CAM type latches.
- E. Provide access doors, in casings and ducts 24" in height and over, with four (4) CAM type latches.

2.09 BACKDRAFT DAMPERS

- A. Provide balanced backdraft dampers of the self-operating type where indicated on the drawings. Frames of galvanized steel. Blades 1/8" thick aluminum, pivot rods 1/2" diameter cadmium plated steel. Bearings for pivot rods and tie bars to be of the self-lubricating type. Blades of the bulb type with vinyl stripping on the edge for tight closing. Maximum blade length 44"; for dampers wider than 44", use multiple sections with the frames full height for stability. Blades to have brackets with tie bar of 1 1/4" x 1/4" aluminum. Dampers must shut tight under all operating conditions.





## 2.10 SMOKE DAMPERS

- A. Smoke dampers of the normally-closed type shall be installed where shown on the drawings or required by code at each through opening in rated smoke partitions and other smoke separations in addition to a fire damper.
- B. Dampers shall be of the louver type with neoprene or vinyl-edged blades and end seals. Louver blades shall be 4" reinforced flat galvanized steel with welded corners and stiffening and provisions for end seals. All rods shall be minimum 1/2" diameter non-corrosive material with provision for positive interlocking of blades and operators on the shaft. All bearings shall be nylon or Teflon. All hardware shall be of non-corrosive material. Dampers shall be of the parallel blade type. Dampers shall have one (1) factory coat of black lacquer. Provide solid stops on all sides of the frames against which the louver shall close in order to provide maximum 2% leakage at 5" static pressure. All damper operators shall be of the neoprene or rubber diaphragm piston type, with sufficient power to overcome friction of damper linkage and air pressure acting on louvers and with mounting arrangement for location outside of the air stream.
- C. Actuation of these dampers shall be on signal from the smoke sensing units in the particular zone to be protected by each set of dampers.

## **PART 3 – EXECUTION**

### 3.01 INSTALLATION OF DUCTWORK

- A. Adhere to drawings as closely as possible. The right is reserved to vary the runs and sizes of ductwork and to make offsets, where necessary to accommodate conditions arising at the building. Coordinate duct installation with installation of accessories, dampers, coil frames, equipment, controls and other associated work of ductwork system.
- B. Provide all ductwork built with approved joints and seams smooth on the inside and a neat finish on the outside. Duct joints as near airtight as possible with laps made in the direction of airflow and no flanges projecting into the air stream. Provide ducts adequately braced to prevent vibration; additional bracing shall be provided where necessary.
- C. Ducts shall be securely fastened to the building construction. Provide all hanger inserts as required. Inserts shall be approved for use. Contractor shall furnish and install supplementary steel as required to support ductwork. Strap or trapeze hangers may be attached to building steel using approved bolted beam clamps. Where ductwork is covered in vermiculite plaster, wire lath or lead wrapping, provided additional duct hangers and inserts as required.



- D. All ducts passing through floors shall have an angle iron flange around the floor at the duct opening to act as a dirt seal and duct support. Openings between floor and duct shall be sealed airtight. Where ducts pass through interior partitions and exterior walls, conceal space between construction opening and duct or duct-plus-insulation with sheet metal flanges of same gauge as duct. Overlap opening on four sides by at least 1 1/2".
- E. Do not run ductwork through electrical equipment spaces, above electrical panels, transformer vaults or enclosures.
- F. Provide No. 18 gauge galvanized iron safing around all ducts which, penetrate floor slabs, completely closing off shafts terminating at mechanical room walls, floors and ceiling slabs.
- G. Seal all joints airtight with 3M Co. Type EC-800, Carlisle Iron-Grip 601, Benjamin Foster 32-17 or approved equal sealing compound. Where the duct is pierced for any reason, seal with 3M Co. Type EC-800, Carlisle Iron-Grip 601, Benjamin Foster 32-17 or approved equal sealing compound.
- H. Adequate space shall be provided around all ductwork to permit installation of insulation when specified.
- I. Whenever it is necessary to penetrate the ductwork, with piping or structures, the Contractor shall receive permission from the Commissioner. Streamliner fittings, as detailed in the SMACNA Manuals shall be adhered to.
- J. Except as otherwise indicated, all angle irons required for any ductwork construction and supporting shall be galvanized.
- K. Exact dimensions of register boxes must await approval of grilles, and exact locations shall be submitted for approval; otherwise, any changes directed after installation shall be made without additional cost. All register boxes and other openings of the ductwork must be tightly closed during construction to keep out rubbish.
- L. Care shall be taken to prevent metal scraps and debris from entering the ductwork. All foreign material shall be removed from the duct prior to installation and after installation. During construction, all open ends of ductwork shall be covered with canvas.
- M. Do not suspend any device or work items installed by any trade from ductwork (for example – lighting conduit, lighting fixtures, piping, ceiling construction, etc.).
- N. Where duct penetrate mechanical room floor slabs, provide a 4" concrete curb around duct penetration.

**END OF SECTION 233113**



NEW YORK CITY DEPARTMENT OF  
DESIGN + CONSTRUCTION

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## SECTION 236450

### HVAC EQUIPMENT

#### PART 1- GENERAL

##### 1.01 GENERAL REQUIREMENTS

- A. Work of this Section, as shown or specified, shall be in accordance with the requirements of the Contract Documents.
- B. 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]

##### 1.02 WORK INCLUDED

- A. Work of this Section includes all labor, materials, equipment and services necessary to furnish and install the HVAC equipment as shown on the drawings and specified herein, including, but not limited to, the following:
  - 1. Boilers
  - 2. Pumps
  - 3. Fans

##### 1.03 QUALITY ASSURANCE

- A. ANSI, ARI, ASME, AMCA, ASHRAE, ICC, NFPA, UL.
- B. Comply with requirements of all governing authorities having jurisdiction.

##### 1.04 SUBMITTALS

- A. Make submittals on all items listed above in Section 1.02, Work Included.
- B. Shop drawings indicating size, location, details and installation requirements.
- C. Product Data: Manufacturers' printed data, catalog cuts, test data, performance curves, manufacturer's recommendations.
- D. Wiring Diagrams: Submit manufacturer's electrical requirements for power supply wiring for HVAC equipments. Submit manufacturer's ladder-type wiring



diagrams for interlock and control wiring. Clearly differentiate between portions of wiring that are factory-installed and portions to be field-installed.

- E. Operational and Maintenance Manuals: Manufacturer's instructions for operation and maintenance.

#### 1.05 WARRANTY

- A. HVAC Equipment: Provide written 1 year material warranty issued by the manufacturer upon completion of the work.

### PART 2- PRODUCTS

#### 2.01 FANS - GENERAL

- A. Test and rate all fans in accordance with the standards of the AMCA. All fans must bear the AMCA certified rating seal.
- B. Make appropriate allowances for the effects on fan performance of all installation conditions including plenum enclosures and inlet and discharge arrangements so that actual installed fan performance equals that specified.
- C. Balance all fan wheels and all other moving components statically and dynamically. Where a coating is specified and it affects the balance of the fan wheel, perform the balancing after the coating has been applied.
- D. Drill all fan shafts on the center line to receive a tachometer point.
- E. Fans shall operate stably without pulsation at design conditions. Centrifugal fan characteristic curves must be such that the fan operating point falls below the point of no flow static pressure, to the right of the point corresponding to that of maximum mechanical efficiency, and a 15% increase in static pressure over that specified results in not more than a 15% a reduction in cfm and does not affect the stability of fan operation. If necessary, accomplish the foregoing by modifying the width of the fan wheel and/or by providing inlet vanes to change the characteristic curve.
- F. In addition to other data regarding fan construction and performance, submit to the Commissioner for approval complete certified data for each fan with additional copies for inclusion in the Instruction Manual as follows:
  - 1. Curves showing at the fan speed indicated on the drawings, the relationship between the air handled by the fan from zero to the maximum obtainable in cfm and the static pressure developed, static efficiency, motor horsepower (including drive losses), and sound power levels in decibels in each of the eight octave bands.
  - 2. Correction chart for fans equipped with variable inlet vanes indicating performance at various percentages of opening.



3. Data relating to sound level produced at the fan outlet when operating at design conditions in accordance with AMCA Bulletin 300, Recommended Practice for Sound Testing of Air Moving Devices.
- G. Fan shaft shall extend a minimum of 3" beyond the hub of the belt sheave.
- H. Provide adjustable V-belt drive for all belt-driven fans.
1. Sheaves for motor of less than 15 HP shall be adjustable, plus or minus 10%. When the motor is 15 HP or over, use companion type sheaves. Service rating shall not be less than 150% of the maximum estimated load. Select sheave sizes to minimize fan and motor shaft overhung load. Arc of contact of the belt on smaller sheave shall not be less than 120.
  2. Belts shall be reinforced rubber or neoprene, as manufactured by Eaton HY-T multi-wedge drive, Browning Grip Belt or approved equal.
  3. Minimum efficiency shall be 95%.
  4. Submit all selection calculations.
  5. Equipment RPM's indicated on drawings are for selection guidance only. Provide sheaves as required by manufacturer's ratings. Provide additional sheaves as required for balancing at no extra cost to the City of New York.
- I. Provide inlet guards where fan inlets are not connected to ductwork, at double inlet fans within casings, and at single inlet fans connected to walk-in casings. Inlet guards shall be constructed of 2" X 2" heavy gauge galvanized steel wire. Guards shall be securely fastened in place and designed for easy removal. Guards shall meet all OSHA requirements.

## 2.02 CENTRIFUGAL FANS

- A. Provide a factory-built and tested fan of sizes and capacities as scheduled and as specified herein.

## 2.03 PUMPS – GENERAL REQUIREMENTS

- A. Construct all pumps of materials and pressure ratings suitable for the conditions encountered during continuous operation.
- B. Where corrosion can occur, appropriate corrosion-resistant materials and assembly methods must be used including isolation of dissimilar metals against galvanic interaction.
- C. Where components are or may come in contact, although the materials may basically be similar, use hardness differentials of at least 50 Brinnell to prevent seizure and reduce wear.



- D. Balance impellers and all other moving components statically and dynamically.
- E. Provide shaft packing or seals compatible with the pump design, fluid handled and in accordance with the manufacturer's recommendations.
- F. Provide pump with coupling and shaft guard in accordance with ANSI B15.1 Section 8.
- G. Match centrifugal pump impellers and casings so that at specified operating conditions the impeller diameter is not more than 72% of the cut water diameter of 85% of the maximum catalogued impeller size, whichever is less.
- H. Pumps must operate quietly, smoothly and stably without cavitation, pulsation, vibration or internal recirculation. Pump operating characteristic curves must meet the following requirements:
  - 1. The pump NPSH requirement must be less than the available system NPSH.
  - 2. The pump operating point must fall below the point of no flow head pressure.
  - 3. Pump shall be furnished to operate at or near the point of peak efficiency. Pump curve shall be continuously rising from design capacity up to shut-off point to ensure stable operation and prevent any possibility of hunting.
- I. Furnish pumps so that when operating at rated rpm the pump motor cannot be overloaded despite variations in pumping head over entire range of curve. Brake horsepower and motor horsepower shall conform with the equipment schedule. If a particular manufacturer's selection cannot conform to the above, any mechanical or electrical adjustments necessitated by a larger motor shall be at no cost to the City of New York and shall be subject to approval by the Commissioner.
- J. Where initial and ultimate operating conditions are specified, these shall be achievable by changing the pump impeller with no modifications to the casing.
- K. Provide nameplates attached to pumping unit showing the following information:
  - 1. Maker's name, date of manufacturer, size and type.
  - 2. Rated capacity, head and RPM at full load.
  - 3. Rated horsepower, full load amperes.
  - 4. Voltage, number of phases, frequency.



5. Temperature rise or class of insulation.
  6. Service factor, if other than 1.0.
  7. Impeller diameter, impeller model and stages.
- L. Pumps shall be single suction centrifugal in-line type of the sizes, capacities, and electrical characteristics as scheduled for mounting in pipeline, close-coupled to electric motor. It shall be possible to remove motor without removing pump from pipeline.
  - M. Casing shall be bronze, vertically split, bolted at the division, flanged piping connections.
  - N. Impellers shall be fully enclosed, bronze, keyed to the shaft.
  - O. Shafts shall be Type 316 stainless steel, ground smooth.
  - P. Shaft seals shall be mechanical, hardened ceramic and carbon sealing faces.
  - Q. Bearing shall be oil lubricated, external cups.
  - R. Couplings shall be self-aligning, flexible type.
  - S. Provide built-in motor thermal overload protection (with automatic restart).
  - T. Pumps shall be rated for 100 psi and 225°F.
  - U. Pumps shall be manufactured by Bell and Gossett, Federal, Taco or approved equal.

#### 2.04 IN-LINE CIRCULATING PUMP

- A. Pumps shall be single suction centrifugal in-line type of the sizes, capacities, and electrical characteristics as scheduled for mounting in pipeline, close-coupled to electric motor. It shall be possible to remove motor without removing pump from pipeline.
- B. Pumps shall have ECM motors to provide variable speed using Autoadapt controls as standard.
- C. Casing shall be cast iron or stainless steel, vertically split, bolted at the division, flanged piping connections.
- D. Impellers shall be fully enclosed, bronze, keyed to the shaft.



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- E. Shafts shall be Type 316 stainless steel, ground smooth.
- F. Shaft seals shall be mechanical, hardened ceramic and carbon sealing faces.
- G. Bearing shall be oil lubricated, external cups.
- H. Couplings shall be self-aligning, flexible type.
- I. Provide built-in motor thermal overload protection (with automatic restart).
- J. Pumps shall be rated for 100 psi and 225°F.
- K. Pumps shall be manufactured by Grundfos Model Alpha or Magna or approved equal.

## 2.05 HYDRONIC SYSTEM PRESSURIZATION AND AIR ELIMINATION

### A. General:

1. Provide as shown on the drawings, a pressurization, air elimination, and automatic fill system to accommodate the expanded water generated by the increase in temperature in the water system and to control the increase in pressure at all critical components in the system to the maximum allowable for those components.
2. The pressurization and air elimination system shall ensure that all air in the system shall be eliminated. The only air in the system shall be the permanent sealed-in-air cushion contained in the pressurization controller component of the system, a diaphragm-type expansion tank, pre-charged to the minimum operating pressure at the location indicated on the drawing.
3. All free air originally contained in the system, and all entrained air bubbles carried by system water shall be eliminated at all points in the piping system where the capability of water to hold air in solution is lowest (the point of lowest solubility), and as indicated on the drawings. The air separating and elimination component shall separate entrained air from flowing system water by the creation of a vortex which will allow free air to rise in the center, the point of lowest velocity, to an air elimination valve.
4. For automatic system fill provide a combination back flow preventer and feed water pressure regulator similar to Watts Model 9D and 1156F.
5. Provide a pressurization and air elimination system for each hydronic system.





B. Expansion Tank (Diaphragm Type Pre-Pressurized):

1. The expansion tank shall be welded steel construction with a heavy duty butyl diaphragm and shall be pre-charged to the minimum operating pressure.
2. Provide steel saddles for horizontal mounting.
3. Tank shall be provided with air charging valve.
4. Tank shall be suitable for 125 PSIG working pressure - 240°F maximum operating temperature and shall be tested at 250 psi.
5. Tank construction and testing shall be in accordance with Section VIII of the ASME code for unfired pressure vessels and shall bear the ASME stamp.
6. Expansion tank shall be manufactured by AMTROL Inc., Bell and Gosset, Wessel or approved equal.

C. Air Separator (Tangential Type):

1. The air separator shall be of welded steel construction with blowdown connection and stainless steel strainer
2. The air separator shall be capable of effectively separating not less than 80% of the residual air on each subsequent passage.
3. The air separator shall be constructed, tested and stamped in accordance with Section VIII of the ASME Code for a working pressure of 100 PSIG.
4. Air separator shall be manufactured by AMTROL Inc., Bell and Gosset, Taco or approved equal.

D. Air Elimination Valve (Automatic):

1. The air elimination valve shall be constructed of metal and all working parts shall be non-corrosive and self-cleaning. Working pressure shall be 100 PSIG.
2. The valve shall be capable of removing air at all pressures in the operating range from 2 psi to 150 psi.
3. Valve shall be tightly sealed against loss of system water and prevent the entrance of air in negative pressure situations.



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4. Valve shall be manufactured by AMTROL Inc., Armstrong, Spirax or approved equal.

## 2.06 FINNED TUBE RADIATION

- A. Provide finned tube radiation of the sizes, capacities and heating medium as scheduled and as specified.
- B. Finned tube radiation shall be complete with one-piece back panel, heating element, hangers, expansion compensators, guides, anchors and accessories.
- C. Support brackets for the heating elements shall attach to the back panel. They shall be vertically adjustable for pitch and shall provide for free longitudinal movement for expansion and contraction. Hanger bars shall be installed with nylon trim to prevent noise during expansion and contraction of heating element. Install expansion compensators, guides and anchors as per recommendations of Expansion Joint Manufacturer's Association.
- D. The exterior wall behind the heating element shall be covered with 1/2" thick 3 lb. density rigid asphalt-impregnated fiberboard insulation. The lower section of insulation shall be impaled over pins which have been secured to the wall with a cold setting adhesive. The upper portion of the insulation shall be covered with No. 20 gauge galvanized sheet steel and shall be secured to the wall with tempered steel nails.
- E. Provide one-piece front enclosure, accessories and trim pieces. Enclosures and accessories shall be finished with one prime coat of paint. Enclosures and accessories shall be cleaned and phosphate coated before finishing. Enclosures and mullions shall be constructed of 18 gauge steel and shall fill entire space between piers adjoining windows unless otherwise indicated. Where an enclosure does not terminate at a pier or a wall, the enclosure shall be extended to cover the end of the convector, including the piping connections, and an end enclosure or cap of the same gauge as the front shall be installed.
- F. Provide full access valve compartments for access to valves, balancing fittings, etc., a one-foot matching piece of removable enclosure.
- G. No sheet metal screws or other fastening devices shall be visible when enclosure is installed below eye level. Where two or more enclosure sections are jointed end to end, rolled enclosure edges shall form a neat butt joint without butt straps or other concealing devices. No unfinished metal edges of the ensemble shall be visible.
- H. All enclosure end trim, corner and enclosures shall be provided and installed in accordance with the drawings and field directions from the Commissioner.



- I. Finned tube radiation shall be manufactured by Vulcan, Sterling or approved equal.

## 2.07 CABINET HEATERS

- A. Provide cabinet heaters of the sizes, capacities and heating medium as scheduled and as specified.
- B. The cabinet heaters' casing shall be constructed of corrosion-resistant 16 gauge steel. Cabinet heater shall be equipped with a removable front for access to the interior.
- C. Heating elements shall be copper tube with aluminum fins. Headers shall be of heavy gauge steel and be provided with an air vent. Heating element shall be of the multipass serpentine type.
- D. Cabinet heater shall have two blow-through double inlet aluminum fans. Fan housing and motor shall be mounted as an integral assembly on a common base. Motor shall be provided with a built-in overload protection.
- E. A thermostat and three-speed controller shall be provided and mounted on the unit.
- F. Cabinet heaters shall be provided with renewable type filter.
- G. Cabinet heaters shall be as manufactured by Airtherm, Trane, Berko or approved equal.

## 2.08 UNIT HEATERS (HYDRONIC)

- A. Provide unit heaters of the sizes, capacities and heating medium as scheduled and as specified.
- B. Provide an "on-off-automatic" starter providing overload protection, and a line voltage thermostat.
- C. The heaters to be controlled automatically by means of thermostats to start and stop the fans. The thermostats to be adjustable and designed to operate on a 3°F differential over a temperature range of approximately 45°F - 75°F. Install an aquastat in the supply connection to each heater, wired to prevent the fan from operating when there is no heat available.
- D. Each unit heater shall be properly supported from building construction and braced, as necessary, to prevent sway.
- E. Unit heaters shall be manufacturers by Airtherm, Trane, Berko or approved equal.



## 2.09 BOILERS – GENERAL REQUIREMENTS

- A. Construct all apparatus of materials suitable for the conditions encountered during operation.
- B. Where corrosion can occur, appropriate corrosion-resistant materials and assembly methods must be used, including isolation of dissimilar metals against galvanic interaction. Resistance to corrosion must be achieved by the use of the appropriate base materials and coatings resorted to only when specifically permitted by the specifications.
- C. Match and balance all system components to achieve compatibility of equipment for satisfactory operation and performance throughout the entire operating temperature and control range. Installation shall be in accordance with manufacturer's recommendations.
- D. Provide all controls, wiring, piping, valves, tubing, accessories and other components necessary to make a complete operating system.
- E. Provide emergency boiler shut off breakglass stations at all entries or exits from the boiler room.
- F. Boilers shall be not less than the rating as shown, and the height shall fit the space available, leaving ample allowance for drawing tubes, smoke connections, piping, etc.
- G. Comply with all codes and regulations as follows:
  - 1. Construct, install, test and certify all equipment in accordance with requirements of all regulating bodies having jurisdiction and the recommendations of the equipment manufacturers.
  - 2. Construct and install boilers, safety devices, pressure vessels and all other components and accessories that fall within the scope of the ASME Boiler and Pressure Vessel Code to conform to the code and bear the code stamp.
  - 3. Construct and install fuel burning equipment and control devices to conform to the requirements of Factory Mutual, FIA.
  - 4. Combustion performance shall comply with local and state smoke and air pollution ordinances.
  - 5. Construct and install electrical items to conform to National Fire Protection Association, and National Electrical Code and NEMA Standards.



6. Boiler and components shall comply with latest State Boiler Code.
  7. Boilers and burners shall have been approved by the New York City Department of Environmental Protection (Air Resources). They shall also have been approved by the Materials and Equipment Acceptance (MEA) Division of the Department of Buildings. The MEA approval number shall be indicated on the shop drawings.
- H. Submit the following simultaneously for approval prior to shipment:
1. A complete detailed set of construction and erection drawings for all equipment components, controls and accessories, settings and bases indicating dimensions, materials of construction and methods of assembly. Show size and location of all outlets, including those for test instruments, access and inspection openings.
  2. A diagram showing boiler loads on the foundation.
  3. Complete capacity and performance data at 130%, 100%, 75%, 50% and 25% of rated capacity.
  4. Square feet of heating surface measured on the flue gas side.
  5. Cubic feet of furnace volume.
  6. Square feet of evaporating surface.
  7. Pounds of water at normal water line.
  8. Pounds of water full.
  9. Number of passes.
  10. Type of burner.
  11. Type of mechanical draft.
  12. Draft fan capacity in cfm at 70°F.
  13. Horsepower of draft fan motor.
  14. Operating weight.



15. Stack temperature expected.
16. Range of firing equipment.
17. Wiring diagrams.

I. Provide the following inspections:

1. The boilers and pressure vessels shall be inspected at Contractor's expenses during construction and testing and the entire installation inspected after completion by an authorized agent of a recognized boiler inspection and insurance company approved by the City of New York and by the inspectors of the regulating bodies having jurisdiction.
2. Deliver certified inspection reports, in duplicate, to the City of New York before shipment of equipment.
3. Deliver certified field inspection reports, in duplicate, to the City of New York as they are completed.

J. Provide hydrostatic test as follows:

1. Before shipment, test all components hydrostatically at the manufacturer's plant to a pressure of at least 12 times the maximum allowable working pressure and a minimum of 60 psig.
2. After installation, test the boilers hydrostatically to at least 12 times the maximum allowable working pressure and a minimum of 60 psig for a minimum of 8 hours with no loss of pressure or evidence of leaks.
3. If leaks develop, repair them in conformance with Recommended Rules for Repairs by Fusion Welding to Power Boilers and Unfired Pressure Vessels issued by the National Board of Boiler and Pressure Vessel Inspectors. Upon completion of repairs, repeat the test.

2.10 MODULAR OIL-FIRED HOT WATER BOILERS

- A. Provide, as indicated, factory-assembled and tested cast iron, oil-fired, modular hot water boilers, designed to be operated in battery of boiler modules, of capacity as scheduled. Provide net ratings approved by I-B-R, and constructed in accordance with requirements of the ASME Boiler and Pressure Vessel Code. Boiler design working pressure shall be 100 psig.
- B. Construct of horizontal cast iron sections, connected with push nipples, and provided with cast iron flue collector.



- C. Provide for each module, steel burner base with high pressure atomizing oil burners, cadmium sulfide cell type primary burner control, high limit control, and UL listed barometric dampers. Provide for each battery of boiler modules and insulated steel jacket.
- D. Provide controls designed to fire each module in battery in step sequence. Arrange controls so any module can be made inoperative without interfering with normal operation of other modules.
- E. Provide for hot water boilers, preformed return pipe, combination high-limit/low-limit, low-water cutoff (manual reset) combination pressure and temperature gauge, and ASME relief valve. Boiler design working pressure shall be 100 psig.
- F. Provide a microprocessor based boiler control package with keypad and LED display that includes an outside temperature sensor, aquastats, circulator interlocks, transformer and step controller. Hot water supply temperature shall be reset based on outdoor temperature.
- G. Boiler shall be manufactured by Slant Fin, Weil-McLain, Burnham or approved equal

## 2.11 FUEL OIL STORAGE TANKS

### A. General:

- 1. Fuel oil storage tanks shall be of size, shape and capacity as indicated on drawings, as herein specified and construction shall be in accordance with the New York City Building Code, Underwriters Laboratories Standard UL-58, and New York State Department of Environmental Conservation Standards for Petroleum Bulk Storage 6NYCRR Part 612, 6NYCRR Part 613, and 6NYCRR and part 614 and shall be so labeled.
- 2. Fuel oil storage tanks shall be electrically grounded in accordance with the New York City Mechanical Code chapter 13 section 1305.14.8.
- 3. Manufacturer to provide calculations demonstrating that the tank vents have been adequately sized to provide the required emergency vent vapor flow while limiting the vented tank volume back pressure to a level less than the maximum pressure by the design of the tank

### B. Above Ground Tanks

- 1. Provide cylindrical fuel oil storage tank of dimensions shown on the drawings. Tank shall be fabricated of Class "A" steel plates made by the open hearth or basic oxygen process. The plates shall be free from physical imperfections, such as laminations, cracks, mill, scale, etc. Steel must be new, in good condition, and



free from rust. Tanks shall be welded throughout and shall conform with the requirements of the New York City Board of Standards and Appeals. Tank shall be provided with factory installed saddles. Saddles shall be 6" high and shall be designed to be continuously supported along the full length of the base.

2. Welding for tanks shall be done by competent welders in a first-class manner. Lapped seams shall be not less than 2" and shall be continuously welded inside and outside. Outlets for pipe connections shall also be continuously welded inside and outside.
3. Provide openings shown on the drawings, located on top of shell of each tank. Size for opening for each pipe connection shall be the size of the pipe connected, except as otherwise shown. Couplings for pipe connections shall be continuously welded inside and outside of tank and places. Tank openings shall be plugged until pipe connections are made.
4. Storage tanks shall be thoroughly cleaned and painted on the outside at the factory with one (1) coat of red oxide paint.
5. Tank shall be hydrostatically tested at a pressure of 30 pounds per square inch for a period of at least 30 minutes without loss in pressure. In the event of leakage, tanks shall be made tight as approved and the test repeated.
6. Fuel oil tank fill terminal shall be fitted with a watertight fill box, approved by the New York City Board of Standards and Appeals and bearing the approval calendar number. Fuel oil tank vent terminal shall be fitted with a New York City Board of Standards and Appeals approved hood. Fill box and vent hood shall each be identified, by an approved permanent marking, with the tank number to which it is connected.
7. Thickness of the tank shall be as follows:

<u>Tank Diameter</u>	<u>Shell Thickness</u>	<u>Head Thickness</u>
Up to 72"	1/4"	5/16"
73" to 120"	5/16"	3/8"
121" to 144"	3/8"	3/8"

8. Dished heads for such tanks shall have a curvature the radius of which is not greater than the diameter of the tank. Dished heads shall be formed with an adequate cylindrical extension rim to provide a welding surface. If flat heads are used, they shall be braced if by structural members or rods.





9. Tank shall be provided with a rupture basin having a capacity at least 1½ times the capacity of the storage tank. Basin shall be constructed of 1/4" welded steel plates with turned edges and a structural steel channel mounting base. Basin shall be provided with tank locating guides. Basin shall be painted on the inside and outside surfaces with one coat of red oxide paint. Basin shall be constructed in accordance with NFPA No. 30.
10. Storage tank shall be provided with tank gauge top mounted and float operated.

### **PART 3 – EXECUTION**

#### **3.01 GENERAL REQUIREMENTS FOR ALL HVAC EQUIPMENT**

##### **A. Examination**

1. Examine areas to receive equipment for compliance with requirements for installation tolerances and other conditions affecting performance.
2. Examine roughing-in for ductwork, piping, and electrical connections to verify actual locations before installation.
3. Proceed with installation only after unsatisfactory conditions have been corrected.

##### **B. Installation**

1. Secure all equipment to building structure and install equipment in accordance with approved detail drawings, manufacturer's instructions, and all codes and regulations which apply.
2. Install all accessories not factory installed.
3. Install equipment level and plumb unless otherwise noted.
4. Install equipment with required access and clearances. If there are field condition that prevent providing access and clearances notify the Commissioner. If the equipment is installed before rectifying the access and clearance issues the Contractor shall be require to remove and re-install the unit as required and make any associated changes to the associated ductwork, piping, wiring and controls at no cost to the City of New York.



5. Where required suspend equipment from structure or mount on concrete base or stand with vibration isolators. Vibration isolators are specified under Section "Vibration Isolation and Seismic Restraints."
6. Install sensors and controls supplied with the equipment and as called for under Sections related to Controls.

C. Connections

1. Piping and ductwork installation requirements are specified in other sections.
2. Drawings indicate general arrangement of piping, ductwork, fittings, and specialties. Arrange connections as per approved shop drawings.
3. Unless otherwise indicated, install shutoff valve and union or flange at each connection.
4. Install piping and ductwork adjacent to equipment to allow service and maintenance.
5. Ground equipment.
6. Tighten electrical connectors and terminals according to manufacturer's published torque-tightening values.

D. Field Quality Control

1. Testing: Perform the following field quality-control testing and report results in writing:
  - a. After electrical circuitry has been energized, start units to confirm proper motor.
  - b. Test and adjust controls and safeties
2. Repair or replace malfunctioning units. Retest as specified above after repairs or replacements are made.

E. Cleaning

1. After installing units, inspect equipment for damage to finish. Remove paint splatters and other spots, dirt, and debris. Repair damaged finish to match original finish.



2. After installing equipment, clean internally according to manufacturer's written instructions.
3. Install new filters in air handling equipment within two weeks after start up.
4. Basket strainers shall be initially cleaned two week after start-up with a second cleaning two weeks after that. If there is still excessive debris in the strainers the Contractor shall bring the water treatment subcontractor back to re-flush the system.

F. Start Up

1. Verify that equipment is installed and connected according to approved shop drawings and contract drawing.
2. Adjust flows and controls.
3. Test and adjust controls and safeties. replace damaged and malfunctioning controls and equipment.

G. Factory Start Up Service

1. Engage a factory-authorized service representative to perform startup service for the following equipment or as specified under Commissioning:
  - a. Boilers
2. Inspect field-assembled components, equipment installation, and piping and electrical connections for proper assemblies, installations, and connections.
3. Complete installation and startup checks according to manufacturer's written instructions.
4. Prepare a written startup report that records results of tests and inspections.

H. Demonstration and Instruction

1. Engage a factory-authorized service representative to demonstrate the equipment's operation and to instruct City of New York's maintenance personnel to adjust, operate, and maintain units as specified under Commissioning.



### 3.02 MOTOR CONTROL CENTERS

- A. Provide a housekeeping pad or pedestal foundation 6" high and extending 5" from all sides of the Motor Control Centers.
- B. Provide grounding type bushings for conduits which originate or terminated at the Motor Control Centers and individually bond this raceway to the ground bus in the Motor Control Centers.
- C. Control wiring not part of the motor power circuit will be terminated at terminal blocks in Motor Control Centers by this Contractor. This contractor shall label all points on terminal block to indicate system (i.e. AC-1, P-1, etc.) and terminal designation conforming to control wiring diagrams (i.e. T-1, T-2, etc.). All control wiring from terminal blocks in Motor Control Centers to starters, HOA, pilot lighting, etc., start/stop switches, etc., located in Motor Control Centers shall be by this Contractor.
- D. Be available during tests of mechanical, miscellaneous equipment and elevator systems. Cooperate with all other contractors and make all electrical adjustments and changes required in the Work described above until equipment and systems are operating satisfactorily in the opinion of Commissioner.

**END OF SECTION 236450**



## SECTION 260519

### BASIC MATERIALS AND METHODS

#### PART 1 GENERAL

##### 1.01 GENERAL REQUIREMENTS

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. Work of this Section, as shown or specified, shall be in accordance with the requirements of the Contract Documents.

##### 1.02 WORK INCLUDED

A. Work of this Section includes all labor, materials, equipment and services necessary to complete the Electrical Work as shown on the drawings and specified herein, including, but not limited to the following:

1. Provide basic materials and methods.

##### 1.03 RELATED WORK

A. Finish painting.

##### 1.04 QUALITY ASSURANCE

A. Manufacturers Instructions:

1. In addition to the requirements of these Specifications, comply with manufacturers instructions and recommendations for all phases of the work.

B. Except as modified by governing codes and by the Contract Documents, comply with the applicable provisions and recommendations of the following:

1. American National Standards Institute, Institute of Electrical and Electronic Engineers, National Electrical Manufacturers Association and Underwriters' Laboratories, New York City Electrical Code.
2. Electrical Metallic Tubing: Comply with the latest edition of Underwriters' Laboratories Standard UL-797, American National Standards Institute C80.3.
3. Intermediate Metal Conduit: Comply with the latest editions of Underwriters'



- Laboratory Standard UL-1242 and ANSI C80.6.
4. Rigid Conduit: Comply with the latest edition of Underwriters Laboratories Standard UL-6, and American National Standards Institute C80.1.
  5. Conductors: Comply with American Society of Testing Materials and International Power Cable Engineering Associations.
  6. Rigid Non-Metallic Conduit: Comply with latest editions of UL-651, and NEMA TC-3.
  7. Surface Metal Raceways: Comply with latest edition of UL-5, and NEMA.
  8. Electrical Wireways: Comply with latest edition of UL-870.
  9. Dimmers (Wall Box Type): Comply with latest edition of UL-20.
  10. Bronze and Stainless Steel Rigid Conduit and Couplings: Comply with latest edition of UL-6A.

#### 1.05 SUBMITTALS

- A. Shop Drawings: Submit shop drawings for the following items:
  1. Approved fire stop.
  2. Wire and Cable: Identify for what purpose each type will be used.
  3. Raceways: Catalog Cuts of each type, with proposed use identified.
  4. Switch and Wiring Devices: Sample of each type.

#### 1.06 TESTS

- A. Test all conductors for continuity and proper connection after installation.
- B. Perform standard 500-volt insulation test with "Megger" tester on all wiring AWG #8 and larger installed. Tests are to show insulation resistance in excess of 50 megohms. Replace any conductors failing to meet this test.

### PART 2 PRODUCTS

#### 2.01 RACEWAY SYSTEM

- A. Provide raceway as required for all wiring systems. Provide conduits whose sizes are not noted on the Drawings in accordance with the requirements of the New York City Electrical Code, for the quantities and size of wire installed therein, including required ground conductors.



- B. Provide electrical metallic tubing manufactured of steel, galvanized and coated with a chromate coating on the outside and a silicone epoxy-ester lubricant on the inside. Use steel compression gland fittings, as manufactured by O.Z Gedney or approved equal where running exposed within building. Set screw type fittings may be used for concealed work. EMT shall be Allied Tube and Conduit type EMT or approved equal.
1. Where installed in slab or fill, provide concrete tight fittings. Utilize rigid heavy wall conduit bends and elbows where exiting from slab.
- C. Provide intermediate metal conduit manufactured of hot dipped galvanized steel, all threads shall be galvanized after cutting, and shall have chromate coating on the outside and a silicone epoxy-ester lubricant coating on the inside. Intermediate metal conduit shall be Allied Tube and conduit type IMC, or approved equal.
- D. Provide rigid conduit manufactured of hot-dipped galvanized rigid steel, with chromate coating. All threads shall be galvanized after cutting. Rigid conduit shall be Allied Tube and Conduit type GRC or approved equal.
- E. Flexible Steel Conduit: Maximum length, 6 feet, unless specifically noted elsewhere. Single strip, continuous, flexible, interlocked, double wrapped steel, galvanized inside and outside forming smooth internal wiring channel, as manufactured by National Electric Products, Triangle, Clifton Conduit or approved equal. Flexible metal conduit must contain an equipment bonding jumper wire bonded at each end or an equipment ground conductor, sized as required, except as permitted by code for 20 ampere branch circuits only. Provide connectors with insulated grounding type bushings.
- F. Liquid-Tight Flexible Electrical Conduit.
1. Same as flexible steel conduit except with tough, inert watertight plastic outer jacket, "Seal-Tite" Type U.S. (American Brass Company) "Flexible Seal Type LX", (Columbia Cable and Electric Corporation), "Electric-Flex" (International Metal Hose).
  2. Fittings: Cast malleable iron body and gland nut, cadmium plated with grounding lug cast integrally with gland nuts. Spiral molded nylon or vinyl-sealing ring between gland nut and bushing and nylon-insulated throat, as manufactured by Gedney, type 4QL or approved equal of Appleton, or Thomas & Betts.
- G. Non-Metallic Conduit: Rigid, heavy wall, Schedule 40, polyvinyl chloride (PVC) plastic conduit, suitable for direct burial and Underwriters' Laboratory listed. Acceptable manufacturers are: Borg Warner, Corlon, Ethyl, Karloy, or Triangle. Provide offsets and 90° of rigid steel plastic coated or painted (2 coats) conduit. Where exiting slab provide rigid steel plastic coated conduit and extend a minimum of 2 inches above floor or equipment foundation. PVC may be utilized to exterior luminaries. Provide Ground wire in accordance with code requirements in addition to wiring indicated on drawings.
- H. Wireways: Hinged or screw-cover type of sizes indicated or as required by the New York Electrical Code for the quantity and size of wires contained within, complete with elbows, tees, connectors, adapters, etc., with all parts factory-fabricated and of the same manufacturer.



Acceptable wireways are Square D "Lay-In-Duct", General Electric Co. "Type HS", Square D "Square Duct", or ITE "KBL-Duct", or approved equal.

- I. Surface Metal Raceway: Minimum .040 inches thick steel construction. Two-piece systems shall have galvanized base. Two piece unless otherwise noted on drawings. Provide compatible transition and adaptor fittings from conduit to surface metal raceway. Provide necessary fittings, boxes, elbows, ground clamps, connectors to facilitate complete installation. Surface metal raceway system shall be Wiremold or approved equal.
- J. Expansion Fittings: Provide at all building expansion joints or where required to compensate for raceway expansion and contraction. Provide with bonding jumper. Shall be similar to O.Z./Gedney Type AXB, TX, EXE, AXDX or DXX as required, with type BJ, bonding Jumper.
- K. Sleeves through fire-rated floors and walls: Conform to New York Electrical Code and New York City Building Codes to prevent fire spread. All floors are fire rated. Refer to Architectural Drawings for fire walls.
  1. Where approved for use by local authorities utilize O.Z. Gedney CFS series fire seal for conduit penetration and CAFS series for cable penetrations of fire rated structure up to 3 hour rating. Utilize O.Z. Gedney PTFS series fire seal for non-fire rated, power or telephone service heads supplied via flexible steel conduit.
- L. A watertight entrance sealing assembly shall be provided where conduits enter roof or exterior walls. Assembly shall consist of OZ Gedney type CSMI conduit sealing bushing on interior and type CSMC on exterior.
- M. Raceway fittings shall be malleable iron and steel galvanized or cadmium plated for steel conduit.
- N. Bushings shall be insulated type made of iron, threaded type with conduit end stop and integrally molded, non-combustible phenolic insulated surfaces rated 150°C. Grounding type bushings shall, in addition, have tin plated copper grounding path. Bushings shall be O.Z. Gedney type HB or approved equal. Grounding type shall be O.Z. Gedney type HBLG or approved equal.
- O. Raceway Supports
  1. Support raceways on accepted types of wall brackets, specialty steel clips, or hangers, ceiling trapeze hangers, or malleable iron straps. Plumbers perforated straps are not permitted. Acceptable manufacturer's brackets or hangers are Kindorf, Elcan, Binkley, Multi-Frame, Power-Strut, or Unistrut, or an approved equal. Do not suspend raceways or equipment from other raceways, steam, water, or other piping or ductwork. Provide independent and secure support methods.

## 2.02 OUTLET, JUNCTION AND PULL BOXES

- A. Provide zinc coated or cadmium plated sheet steel outlet boxes not less than 4 inches octagonal or square, unless otherwise noted. Use shallow outlet boxes in columns millwork, mullions,





and other areas where structural or physical conditions prohibit use of ordinary outlet boxes. Equip fixture outlet boxes with 3/8" no-bolt fixture studs. Where fixtures are mounted on or in an accessible type ceiling, provide a junction box and extend flexible conduit to each fixture. Outlet boxes in finished ceilings or walls shall be fitted with appropriate covers, set to come flush with the finished surface. Where more than one switch or device is located at one point, use gang boxes and covers unless otherwise indicated. Sectional switch boxes or utility boxes will not be permitted. Provide Steel City Series "GW" tile box, or as accepted, or a 4" square box or for multi-gang Steel City Series "G", with tile ring in masonry walls which will not be plastered or furred, or where "Drywall" type materials are applied. Provide outlet boxes of the type and size suitable for the specific application.

- B. Construct junction or pullboxes not over 150 cubic inches in size as standard outlet boxes, and those over 150 cubic inches shall be code gauge galvanized steel with screw on covers of same gauge metal. Provide cable supports (3/4" conduit covered by loose fitting fiber tubes) for two (2) or more horizontal rows of conduit entering box. Provide ground lug in all junction/pull box, larger than 4" X 4" standard outlet, box O.Z. Gedney type "KG" or equal for each conduits pair.
- C. Plug any open knockouts not utilized.
- D. Provide surface mounted outlet and junction boxes of cast metal with threaded hubs in unfinished indoor locations and where exposed to moisture and all outdoor locations.
- E. Provide barriers in all boxes with ganged devices when voltage between adjacent devices exceeds 300 volts.

## 2.03 WIRE AND CABLE

- A. Provide wire with a minimum insulating rating of 600 volts. Communications, circuits, and low tension systems, including fire alarm system wiring is specified elsewhere.
- B. Conductor:
  - 1. Electrical grade, annealed copper, and fabricated in accordance with ASTM standards. Minimum size number 12 for branch circuits; number 14 for control wiring.
- C. Stranding and Number of Conductors
  - 1. Number 12 and 10 solid.
  - 2. Cables larger than number 10, stranded, in accordance with ASTM Class B stranding designations.
  - 3. Control wires stranded in accordance with ASTM Class B stranding designations.
  - 4. Cables, multi-conductor, and as specified elsewhere for low-tension systems.
- D. Insulation



1. Type THWN/THHN insulation suitable for use in wet locations up to 90°C Centigrade. Use for lighting, receptacles and motor circuits and for panel, switchboard, service and equipment feeders, unless otherwise noted on drawings.
  2. Type THHN or THWN/THHN - Flame retardant: Heat-resistant thermoplastic insulation, nylon jacket rated for 90° Centigrade operation. Use for lighting branch circuit wiring installed and passing through the ballast channels of fluorescent fixtures, wiring in metal roofdecks in or near roof insulation, in joist spaces, or in raceways exposed to the sun.
  3. Type FEP: Fluorinated Ethylene Propylene insulated heat resistant wire suitable for 200°C operation. Use for any wiring within 3 feet horizontally or 10 feet above any furnace, boiler or similar appliance, or where high temperature wire is indicated.
- E. Manufacturers: General Electric, Phelps-Dodge, Triangle, Anaconda, Kaiser, General Cable, Okonite, Simplex, National Electrical Products, Collyer, Kerite, Raychem, or approved equal.
- F. Color code all wiring for control systems installed in conjunction with mechanical and/or miscellaneous equipment sections of this Specification in accordance with the wiring diagrams furnished with the equipment. Color code all branch circuit wiring, including circuits to motors, and all feeders by line and/or phase.

120/208 V 3-Phase

Phase A	Black
Phase B	Red
Phase C	Blue
Neutral	White
Ground	Green

Factory color code wire No. 2 and smaller. Wire No. 1 and larger may be color coded by field color taping of the entire length of the exposed ends.

- G. Connectors:
1. General: Make all connections, splices, taps and joints with solder less devices, mechanically and electrically secure. Protect exposed wires and connecting devices with electrical tape or insulation to provide insulation values not less than on conductor. Make splices only in junction pullboxes, or panelboards with oversized wiring gutters to accommodate tap. All splices, taps, terminations, shall be approved for the temperature rating of the conductor.
  2. Large Cables (No. 8 and larger):
    - a. Use compression type connectors, taps and splices specifically designed for the particular connection. Insulate splice with "Bake-lite" covers designed to fit around splice.



- b. Manufacturer: Burndy Engineering Co., Inc; Thomas & Betts, or approved equal.
3. Branch Circuit Wires (No. 10 and smaller): Use any of the following type of terminals and connecting devices:
    - a. Hand Applied: Coiled tapered, spring wound devices with a conducting corrosion-resistant coating over the spring steel and a plastic cover and skirt providing full insulation for splice and wire ends. Screw connector on by hand. Manufacturer: Ideal Industries "Wing Nut"; Thomas & Betts "Piggy"; 3M Co. "Scotch-Lok", or approved equal.
    - b. Tool Applied: Steel cap, with conducting and corrosion resistant metallic plating, open at both ends, fitted around the twisted ends of the wire and compressed or crimped by means of a special die designed for the purpose. Specially fitted plastic or rubber insulating cover wrap over each connector. Manufacturer: Thomas & Betts "Stakon"; Ideal Industries "No. 410 Crim Connector" and "Wrap Cap"; Buchanan; Burndy or approved equal.
- H. Electrical Tape:
1. Specially designed for use as insulating tape.
  2. Manufacturer: Johns-Manville; Minnesota Mining, or approved equal.
- I. Lubricant: Use lubricant only where the possibility of damage to conductors exists. Use only a lubricant which is inert to cable and conduit and in no way restrict ease of pulling through conduit with passage of time.
- J. Cable Systems:
1. Type MC
    - a. Approved cable consisting of plastic insulated, 90°C rated copper conductors, insulated grounding conductor per UL 1569 plus additional grounding and/or isolated ground conductors as specified elsewhere. Conductors shall be twisted and covered with a polyethylene terephthalate (polyester) assembly tape. A galvanized steel armor shall be applied over the inner cable assembly in compliance with U.L. 1569 Section 10. Cable shall comply with NEC article 330, U.L. 1569 and UL 83. Cable shall be as manufactured by AFC cable systems type MC and Super Neutral MC or approved equal.
  2. Mineral-Insulated, Metal-Sheathed cable (Type MI)
    - a. MI cable shall consist of a factory assembly of one or more conductors insulated with a highly compressed refractory mineral insulation and enclosed in a liquid tight and gas tight continuous copper sheath. Cable shall have a fire rating as classified by Underwriters laboratories Inc. (U.L.) and shall be listed in the U.L.



Building materials directory as follows: Two (2) hour for Feeder to Fire Pump, one (1) hour for all other emergency system feeders. MI cable shall not exceed 350 MCM.

- b. MI cable shall be pyrotenax system 1850 or approved equal. Cable shall be approved by the New York City Advisory Board for the application.
- c. Factory installed fire-rated joints or field installed fire-rated joints installed by manufacturers field technician shall be used where circuit length exceeds coil length.
- d. Lug Connection

When connecting MI cable to panel boards, motor starters, circuit breakers, etc. ILSCO lugs, approved for solid conductors, will be used as follows:

CONDUCTOR SIZE ILSCO CATALOGUE NUMBER

#1-250 kcmil Lo-250  
350 CRA-300

If manufacturers termination kits are used to provide a solid copper conductor to 90°C standard conductor connection, standard 90°C rated lugs may be used in lieu of specified ILSCO solid conductor lugs.

2.04 SWITCHES AND WIRING DEVICES

A. General:

1. All devices shall be specification grade flush mounting. Duplex receptacles shall have White Face, local wall switches shall have White Rocker.
2. Cover Plates: Provide cover plates for all wall receptacles outlets, including telephone and switches. Submit sample to Commissioner and obtain approval prior to installation. When two (2) or more switches or devices are shown at one location, mount under a common plate. Plates shall be smooth plastic with white finish.

B. Local Wall Switches:

1. Quiet operating, alternating current type, with rocker operator and heat resistant plastic housing. Silver allow contacts. Rated 20 Amperes, for use at 120 and 277 Volts, and capable of full capacity on tungsten, fluorescent, or HID lamp load. Designed for wiring with up to AWG No. 10 wire.
2. Use single pole, double pole, 3-way, 4-way, pilot or keyed type as shown on drawings.
3. Local wall switches shall be Leviton Decora Line whose catalog numbers are indicated below unless otherwise noted, or approved equal of Pass & Seymour.



- | <u>Device</u>                                    | <u>Decora Line<br/>Catalog #</u> |
|--|----------------------------------|
| a. Single Pole Toggle Switch                     | 5621-2                           |
| b. Three Way Switch                              | 5623-2                           |
| c. Four Way Switch                               | 5624-2                           |
| d. Single Pole Switch and<br>Pilot Light (120 V) | 5628-2                           |
| e. Three Way Switch with<br>Pilot Light (120V)   | 5638-2                           |
| f. Three Way Switch with<br>Pilot Light (277V)   | 5639-2                           |
- C. Space Saver Switches: Use smaller compact switches where specifically shown on drawings or where required to facilitate installation of switch. Switches shall be Pass and Seymour Series 201, 2, 3, 4 or approved equal.
- D. Duplex Convenience Receptacles:
1. Three-pole, National Electrical Manufacturers Association and American National Standards Institute standard type, with bronze contacts which accept plug with two (2) parallel blades and one (1) grounding blade. Heat-resistant plastic enclosure. Two (2) grounding screws. Break-off terminals for two (2) circuit wiring. Rated at 120 volts alternating current (Tamper resistant).
  2. Manufacturers: Leviton Cat. # 16352 (Decora Series) or equal of Pass and Seymour.
  3. Ground Fault protection Type (GFI-Tamper resistant) shall be Hubbell Cat # GFTR20 or approved equal or Pass & Seymore or Leviton.
- E. Floor Outlets
- Flush floor outlet for power and/or telephone shall be made up of single, double, and/or triple gang box, 880W1, 880W2, and/or 880W3 steel box manufactured by Wire mold/Walker. Provide matching brass flange, combination carpet and tile type; and matching brass cover plate. Receptacles shall be Hubbell 5362, DR20WRTR or as required to match indicated circuiting if over 20 amperes.
- F. Outdoor Locations and Ground Fault Interrupter Receptacles:
1. Protect receptacles located outdoors or where indicated to be weatherproof by a GFI receptacle, Hubbell Catalog #GF-5362, GFTR20 or approved equal.
  2. Protect exterior receptacles by a cast aluminum weatherproof metal plate with a stainless steel spring-loaded, casketed lift cover. Plate shall be U.L. listed for wet locations with cover open and with cover closed.



- G. Special Receptacles: Furnish and install special purpose receptacles to match cord and plug of equipment supplied or indicated circuiting, including twist lock type where indicated. Receptacles shall be Specification grade as manufactured by Hubbell or approved equal.

### **PART 3 EXECUTION**

#### **3.01 RACEWAY SYSTEMS**

A. General:

1. Securely fasten all raceways at intervals and locations required by the New York City Electrical Code. Install capped bushings on conduits as soon as installed and remove only when wires are pulled. Securely tie embedded raceway in place prior to embedment. Conduits installed below or in floor slabs must extend minimum of 6 inches above the finished slab to the first connector. Lay out the work in advance to avoid excessive concentrations of multiple raceway runs. Locate raceways so that the strength of structural members is unaffected and they do not conflict with the services of other trades. Install 1-inch or larger raceways in or through structural members (beams, slab, etc.) only when in the manner accepted by the Architect/Structural Engineer. Draw up couplings and fittings full and tight. Protect threads from corrosion with one (1) coat red lead or zinc chromate after installation. Where galvanized conduit is used, use only steel pullboxes or malleable iron fittings.
2. Where a space of over 24 inches to suspended ceilings occurs, the suspending hangers may be utilized to support conduits of 1 inch or less trade size. Where suspended ceilings are 24 inches or less below the structure, provide independent support from the structure for all raceways.
3. Mount conduits a minimum of 8 inches above any accessible type ceiling or with spacing as required to permit relocation of recessed fixtures to any location.
4. Provide insulated grounding type bushings for all feeder conduits and for all branch circuit conduits entering enclosures, panels, pull/splice box etc. grounding bushings not required for branch circuit conduit terminations at standard 4" X 4" or smaller outlet box. Provide insulated bushings for all conduits not requiring insulated grounding type bushings. Secure conduit to all boxes and enclosures, by means of double locknuts one on inside and one on outside. Provide appropriate connectors, couplings for use with EMT to utilize specified bushings.
5. Minimum size conduit shall be 1/2" except 3/4 minimum shall be utilized for homerun from panel to first outlet box.

- B. Above Grade - Define as the area above finished grade for a building exterior and above top surface of any slabs (or other concrete work) on grade for a building interior. Above-grade raceways to comply with the following:

1. Install raceways concealed except at surface cabinets and for motor and equipment connection in electrical and mechanical rooms. Install a minimum of 6 inches from



insulation when crossing or 12 inches from insulation when running parallel to flues, steam pipes, or other heated lines. Do not install within 36" from uninsulated flues, steam pipes, or other heated lines. Provide flashing and counter-flashing for waterproofing of raceways, outlets, fittings, etc., which penetrate the roof. Route exposed raceways parallel or perpendicular to building lines with right-angle turns and symmetrical bends. Run concealed raceways in a direct line and, where possible, with long sweep bends and offsets. Provide sleeves in forms for new concrete walls, floor slabs and partitions for passage of raceways. Waterproof sleeved raceways where required. Seal in an approved manner all raceway openings and sleeves through fire rated walls, floors, and ceilings after raceway installation.

2. Provide raceway expansion joints with necessary bonding conductor at building expansion joints and where required to compensate for raceway or building thermal expansion and contraction.
3. Provide raceway installation (with appropriate sealoffs, explosion-proof fittings, etc.) in all special occupancy areas, as defined and classified in Article 500 of the National Electrical Code, in accordance with that article. Provide conduit sealoffs where portions or an interior raceway system pass through walls, ceilings or floors which separate adjacent rooms having substantially different maintained temperatures, as in refrigerated or cold storage room.
4. Rigid Galvanized Steel Conduit: Install in the following above grade areas:
  - a. Embedded concrete walls and floor slabs.
  - b. Where exposed to mechanical injury.
  - c. For fire alarm, communication and smoke detection systems.
  - d. Circuits supplying power to fire alarm, communication and smoke detection system, smoke exhaust fans, shall utilize specified RHW wire in rigid galvanized steel conduit for U.L. listed 2 hour rating.
  - e. Where specifically required by the New York Electrical Code.
  - f. For underground or exterior work.
  - g. All remaining areas except as permitted or specifically required in the following paragraphs:
5. Intermediate Metal Grade Conduit:
  - a. IMC conduit with fittings as approved by the engineer may be utilized when permitted by codes and local authorities having jurisdiction in all areas listed under Item 4 Rigid Conduit except for items listed in paragraphs 4c and 4d which shall be rigid conduit.



6. Electric Metallic Tubing:
  - a. EMT may be used in lieu of rigid conduit or IMC for areas listed in sub paragraphs 4a and 4h only, provided that where installed in slab or fill, conduit is protected on all sides by a layer of non-cinder concrete at least 2 inches thick and concrete tight fittings shall be utilized and rigid conduit or IMC conduit bends and elbows shall be employed where exiting slab. EMT shall not be used for underground or exterior installations.
7. Provide flexible metal conduit in sufficient lengths not exceeding 6 feet for:
  - a. Branch circuits serving makeup of motor, transformer and/or raceway connections where isolation of sound and vibration transmission is required. For connections in locations exposed to weather and in interior locations subject to moisture, and motor connections use liquid-tight flexible metal conduit.
  - b. Connections to recessed lighting fixtures.
  - c. Provide separate grounding conductor. Securely grounded on each end of sections of flexible raceways. Size in accordance with New York City Electrical Code.
- C. Below Grade: Defined as the area below finished grade for a building exterior and below or within the bottom floor slab for a building interior. Below grade raceways to conform to the following:
  1. Extend below-grade raceways two (2) inches minimum above the floor or equipment foundation.
  2. Install exterior underground conduits 24 inches minimum below finished grade. Do not penetrate waterproof membranes unless proper seals are provided and penetration is approved by the Commissioner.
  3. Below grade raceways shall be rigid steel.
- D. Provide separate code size ground conductor in surface metal raceways.

### 3.02 OUTLET, JUNCTION AND PULL BOXES

- A. Provide all outlet, junction cable support and pullboxes as indicated on the Drawings and as required for the complete installation of the various electrical systems, and to facilitate proper pulling of wires and cables. In general, install pull boxes, or pull fittings, no less than every 100 feet of straight horizontal run conduit or three (3) 90° bends, unless otherwise noted. Junction boxes and pullboxes shall be sized and supported per New York City Electrical Code unless otherwise noted. Provide barriers in boxes to separate wiring from different services per NYC Electrical Code Requirements.
- B. Provide bare copper ground wires, in all junction/pull box, larger than 4" X 4" interconnecting each conduit pair grounding bushings via ground lug. Size ground wire as follows:





Feeder

Ground Wire

up to #2	#8
#1 thru 1/0	#6
2/0 thru 3/0	#4
4/0 thru 350 MCM	#2
500 MCM thru 600 MCM	1/0

- C. The exact location of outlets and equipment is governed by structural conditions and obstructions, or other equipment items. When necessary relocate outlets so that when fixtures or equipment are installed, they will be symmetrically located according to the room layout and will not interfere with other work or equipment. Verify final location of all outlets, panels, equipment, etc., with Commissioner
- D. Back-to-back outlets in the same wall, or "thru-wall" type boxes not permitted. For non-fire rated walls provide 12 inches (minimum) long nipple to offset for all outlets shown on opposite sides of a common wall to minimize sound transmission. Provide 24" (minimum) horizontal separation for outlets shown on opposite sides of a common, rated, fire wall or party wall. Where Architects dimensioned drawings call for back to back spacing less than 24", provide listed putty pads in each box.
- E. Where outlets are installed in steel stud type systems, provide additional cross bracing, bridging, and/or straps to make the outlet completely rigid prior to the application of the wall facing material.
- F. Unless otherwise noted on Architectural plans or directed in field, locate outlets as follows. Heights listed are from finished floor to center of device. Mounting heights for other equipment are as shown on the Electrical or Architectural Plans or as herein further indicated.
1. Convenience and signal outlets: 15 inches above finished floor unless otherwise noted.
  2. Lighting Switches: 3 feet, 6 inches, unless otherwise noted.
  3. Wall Telephone Outlets: 4 feet 6 inches.
  4. Exit Lights: Wall mounted nine inches below ceiling to center line.
  5. Fire Alarm Pull Stations: 4 feet, 0 inches to handle.
  6. Fire Alarm Strobes: Wall mounted, minimum 80" AFF; maximum 96" AFF but minimum 6" below ceiling. When ceiling mounted, no other devices or building appurtenances within 5'-0".
6. Wall Mounted Fire Alarm System Sounding Device: The centerline shall be a minimum of 8'-0" above floor, except in locations where ceilings prevent installation at this height, the centerline of the device shall be 6" below ceiling.



3.03

WIRES AND CABLES

- A. Provide a complete system of conductors in raceway system. Mount all wiring through a specified raceway, regardless of voltage application, unless specifically noted elsewhere.
- B. Drawings do not indicate size of branch circuit wiring. Unless specifically noted elsewhere in this Specification, minimum wire size is to be No. 12 except for motor starter control circuit which may be No. 14. For branch circuits whose length from panel to first outlet exceeds 75 feet for 120 volt circuits or 175 feet for 277 volt circuits, use AWG No. 10.
- C. Do not install wire in incomplete conduit runs nor until all moisture is swabbed from conduits. Insulation resistance to ground is not to be less than that approved by the New York City Electrical Code. Eliminate splices wherever possible. Where necessary, splice in readily accessible pull, junction, or outlet box. Clear interior of raceway of burrs, dirt, and obstructions before wires are pulled.
- D. Provide cable supports for all vertical risers in accord with New York City Electrical Code requirements.
- E. Flashover or insulation value of joints is to be equal to that of the conductor. Provide Underwriters' Laboratories listed connectors rated at 600 volts for general use, and 1,000 volts for use between ballasts and lamps of gaseous discharge fixtures.
- F. Use terminating fittings, connectors, etc., of a type suitable for the specified cable furnished. Provide compression equipment connectors, terminals or splices for all terminations or splices. Make bends in cable at termination prior to installing compression device. Make up all fittings tight. Recheck all splices and terminations and make mechanically and electrically tight during a fifteen (15) day period immediately prior to final acceptance of the work.
- G. Install wire in raceways and make up all terminations in strict accordance with manufacturer's recommendations using special washers, nuts, etc., as required.
- H. Extend wire sizing for the entire length of a circuit unless otherwise noted.
- I. Conduit runs shall contain quantity of circuits as shown on drawings. Combining circuits or wiring to effect a reduction in conduit homeruns will not be permitted except as per paragraph M this section.
- J. Type MC Metal Clad Cable:
  - 1. Application: May be utilized concealed in hollow spaces of building for receptacle and lighting branch circuiting. May not be used where prohibited by code.
  - 2. Install only with approved bushings.



K. Common Neutral:

Panel schedules are based upon utilizing separate neutral conductors for each 120 volt branch circuit. Contractor, at his option, may substitute multi-wire branch circuits, utilizing common neutral, where permitted by these specifications; provided the single pole circuit breakers are regrouped in panel and replaced with two (2) pole and three (3) pole circuit breakers for all multi-wire branch circuits utilizing a common neutral. A Common Neutral will be permitted for two or three, single pole, 15 Ampere or 20 Ampere branch circuits, except as noted below:

1. Common Neutral will not be permitted on circuits served via a dimmer.
2. Common Neutral will not be permitted on circuits serving any duplex receptacles.
3. Common Neutral will not be permitted on circuits supplied via a Ground Fault interrupter Type C.B.

L. Circuiting indicated on drawings is diagrammatic and intended to show devices on a common branch circuit. Contractor may, at his option regroup indicated single pole 20 amp circuits into homeruns of his choice within the following criteria:

1. Circuits requiring individual neutral: Maximum of four (4) circuits per homerun. Contractor may increase quantity to a maximum of nine (9) circuits per homerun provided all conductors are increased to #10 AWG, when homerun contains more than four (4) circuits.
2. Circuits utilizing a common neutral: Maximum of six (6) circuits per homerun. Contractor may increase quantity to a maximum of nine (9) per homerun provided all conductors are increased to #10 AWG, when homerun contains more than six(6) circuits.
3. All homerun conduits shall be minimum 3/4"C up to six (6) circuit homeruns, increase size as required by code for ground and/or isolated ground conductors. For seven to a maximum of 9 circuits per homerun. Minimum size conduit shall be 1". Increase size as required by code for ground and/or isolated ground conductors as indicated on drawings or specified elsewhere.
4. When homeruns are regrouped from those indicated on drawings, contractor shall provide 20% of the eliminated homeruns, but not less than one (1) per panel, as spare, empty conduit, for future use. Run from electric panel locations to centrally located, uniformly spaced locations on floor as directed by Architect/Engineer. Terminate in junction box with Nylon pull cord.

3.04 FLOOR AND WALL OPENINGS

- A. Seal all floors and fire rated floor, ceiling and wall openings necessary to accommodate electrical equipment. This includes all openings in electrical and communications closet floors to permit vertical electrical and communications systems distribution. Seal communications system floor openings only after installation of all wires, cables, etc. including those installed



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by others. Utilize a approved fire stop system. A list of U.L. approved systems appears in "Through Penetration Fire Stop Systems" in the U.L. Fire Resistance Directory, Guide XHEZ.

3.05 GROUNDING

- A. Provide grounding in accordance with the New York City Electrical Code and as noted on Drawings, and described elsewhere in specifications
- B. In addition, furnish a separate insulated green equipment ground conductor for the following branch circuits:
  - 1. Circuits serving any Computer Terminal Receptacles, IT and Security Equipment.

**END OF SECTION 260519**



## SECTION 260533

### EMPTY CONDUIT SYSTEMS

#### PART 1 GENERAL

##### 1.01 GENERAL REQUIREMENTS

- 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. Work of this Section, as shown or specified, shall be in accordance with the requirements of the Contract Documents.

##### 1.02 WORK INCLUDED

- A. Work of this Section includes all labor, materials, equipment and services necessary to complete the Electrical Work as shown on the drawings and specified herein, including, but not limited to, the following:
1. Terminal boards and outlets.
  2. Telephone empty conduit system.
  3. Data empty conduit systems.
  4. Cable TV empty conduit systems.

##### 1.03 RELATED WORK

- A. Basic materials and methods as specified in Section 260519.

##### 1.04 QUALITY ASSURANCE

- A. Comply with applicable requirements of the local telephone utility company.
- B. Except as modified by governing codes and by the Contract Documents, comply with the provisions and recommendations of the following:
1. American National Standards Institute.



2. National Electrical Manufacturers Association.
3. Underwriters' Laboratories.
4. Applicable National Fire Protection Association Standards.
5. Comply with New York City Electric Code Article 770 for Optical Fiber Cables and Raceways.
6. Comply with New York City Electric Code Article 800 for Communications Circuits.
7. Comply with New York City Electric Code Article 820 for Cable TV Distribution System.
8. Comply with New York City Electric Code Article 830 for Network-Powered Broadband Communications Systems.

**PART 2 PRODUCTS**

2.01 TERMINAL BOARDS

- A. Minimum 8' high by 3/4" thick plywood of size indicated on Drawings.

2.02 TELEPHONE OUTLETS

- A. Galvanized steel box 4" X 4" X 2 1/2" minimum dimensions. Cover plate with bushed hole. Plate finish same as wiring devices.

2.03 DATA OUTLETS

- A. Same as telephone except with blank face plate.

2.04 CABLE TV OUTLETS

- A. Same as telephone except with blank face plate.

2.05 PULL LINES

- A. 3/32" outside diameter, 200 pound strength, polyethylene.



**PART 3 EXECUTION**

**3.01 INSTALLATION**

- A. Provide all raceways, outlets, device plates, and terminal boards in conformance with the Contract Documents. Consult with the telephone company and comply with their requirements.
- B. Work by others: Furnishing all wires, instruments, relaying, switching equipment and making all connections.
- C. Incoming Service: Provide incoming service conduits for telephone and data at the location shown on the drawings.
- D. Arrange conduit runs less than 100 feet from point-to-point so that they contain no more than two (2) 90° bends. Conduit runs exceeding 100 feet from point-to-point, with more than one (1) 90° bend, must contain square or oval conduit fittings ("Condulets") or conduit slip sleeves. All empty conduits to terminal boards are to enter top or bottom on the extreme right or left side.
- E. Provide empty conduit and conduit sleeves as indicated on drawings. Provide pullboxes in accessible positions for every 150 feet of straight raceway for all empty conduit.
- F. Provide pull lines in all raceways.
- G. Provide terminal boards of sizes as indicated on the Drawings for mounting by others of terminal strips, key equipment, etc. Locate where 3 foot (minimum) front access space is available. Provide supports when not located directly on wall.
- H. For each telephone, data and TV outlet, provide 1" E.C. from outlet to a junction box located above the nearest available accessible hung ceiling. Provide nylon pull cord.
- I. Telephone Equipment Room: Outlets and devices shown in the telephone equipment room drawings are intended to indicate quantities only. Contact the telephone company for exact locations and make adjustments as required. Provide specified plywood backboard on all walls of equipment room as directed by service providers.
- J. Provide ground cable in conduit from cold water main at building service entrance to all telephone terminal boards and to all other communication systems terminal board locations. Provide minimum #6 awg ground, except to main frame room which shall be 1/0.

**END OF SECTION 260533**



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## SECTION 262400

### 120/208 VOLT ELECTRICAL SERVICE SYSTEM

#### PART 1 GENERAL

##### 1.01 GENERAL REQUIREMENTS

- 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. Work of this Section, as shown and specified, shall be in accordance with the requirements of the Contract Documents.

##### 1.02 WORK INCLUDED

- A. Work of this Section includes all labor, materials, equipment, hoisting rigging and services necessary to complete the Electrical Work as shown on the drawings and specified herein, including but not limited to, the following:
1. Provide electrical service system in accordance with the Contract Documents.

##### 1.03 QUALITY ASSURANCE

- A. Comply with applicable requirements of the local utility company.
- B. Manufacturers Instructions:
1. In addition to the requirements of these specifications comply with manufacturers instructions and recommendations for all phase of work.
- C. Except as modified by governing codes and by the Contract Documents, comply with applicable provisions and recommendations of the following.
1. Switchboards: Comply with latest applicable standards of Underwriters Laboratories Standard U.L. 891 National Electrical Manufacturers' Association PB-2, and the New York City Electrical Code.
  2. Fusible Switches: Federal Specification W-C-865C.
  3. Molded Case Circuit Breakers: Comply with Underwriters' Laboratories Standards UL



489. Comply with latest NEMA Standard AB-3.

4. Power Circuit Breakers. Comply with ANSI C37.13, C37.16, C37.17 and NEMA SG3.
5. Fuses. Comply with latest applicable standards of Underwriters Laboratories Standards U.L. 512, UL 198C, UL 198D, and UL 198E and the National Electric Code.

#### 1.04 SUBMITTALS

A. Shop Drawings: Submit shop drawings and manufacturer' data for the following items:

1. Service and Distribution Switchboards

- a. Provide fully detailed and dimensioned shop drawings. Include information on type and sizes of structural supports, metal thicknesses, surface finishes and bus cross sections, as well as single line diagrams of switch, fuse and bus arrangement.
- b. Frame under glass a print of approved shop drawing showing wiring diagram and switch arrangement. Mount where directed by Commissioner.
- c. Include the following signed statement on the shop drawings:  

"LAYOUT AND DIMENSIONS ARE BASED  
ON ACTUAL FIELD DIMENSIONS."
- d. Furnish a complete schematic wiring diagram and full set of equipment wiring diagrams. Include coordination study by manufacturer.
- e. Short Circuit Ratings: Prepare single line diagram indicating all switchboards, panelboards, MCC, etc. Indicate device short circuit ratings, indicate UL listed series ratings of devices when upstream current limiting overcurrent device is employed, indicate all bus short circuit bracing.

B. Test Reports: Submit certified test reports showing compliance of the following items in accordance with the Contract Documents.

1. Service and distribution switchboards specified by this section shall be given a 60 Hz A.C., dielectric test. Dielectric test shall be phase to phase, and phase to ground, at twice rated voltage plus 1,000 volts, but not less than 1,500 volts, for one (1) minute, prior to shipment from factory. A test voltage which is 20% higher than that in the one minute test may be applied for one (1) second as an alternative to the one (1) minute test. The date of the test and the name and title of the individual certifying the test shall be clearly shown on a label affixed to the equipment.



- C. Maintenance Materials: Deliver to the Owner at the Project Site the following quantities of items in size/color distribution as directed. Store in locations directed, in unopened containers and in a manner recommended by the manufacturer:
1. Switchboards
    - a. Provide three (3) sets of fuses of every size and type used in the switchboards.
    - b. Provide spare fuse cabinet in each switchboard room.
  2. Tools
    - a. Deliver to the Owners representative all special tools required for proper operation and maintenance of the equipment provided. Submit comprehensive list of tools.
  3. Maintenance Manual
    - a. Assemble from manufacturer a complete manual consisting of the Switchboard and Transformer shop drawings. The manual shall also contain manufacturers operation and maintenance instructions, as well as manufacturers suggested spare parts list and list of special tools required. Upon approval of shop drawings provide five (5) copies to the Commissioner

1.05 AGENCY APPROVALS

- A. Prior to installation of any work associated with the electric service, this Contractor shall prepare necessary drawings and pay fees for submission to applicable agencies including New York City Advisory Board and Utility Company for all service work. No work shall be installed without all required approvals, including local Utility Company.

**PART 2 PRODUCTS**

2.01 SWITCHBOARDS

- A. General Construction
1. Furnish and install where indicated a dead front type, completely metal enclosed, self-supporting structure independent of wall supports. Voltage rating shall be 120/208 three (3) phase, four (4) wire. Each switchboard shall consist of the required number of vertical sections bolted together to form one rigid switchboard, requiring access from the front only.



2. Control wiring, necessary fuse blocks and terminal blocks within the switchboard shall be furnished as required. All groups of control wires leaving the switchboard and at shipping splits shall be provided with terminal blocks with suitable numbering strips.
3. Switchboard shall be provided with adequate lifting means and shall be capable of being rolled or moved into installation position and provided with floor sill to be set level bolted directly to the 6-inch high raised concrete pad.
4. Formed structural steel or aluminum, forming a rigid structure. Turned down peripheral edges on front and rear panels.
5. Construct to avoid magnetic loop, which may cause hysteresis heating.
6. Completely enclosed on back, front, and sides with removable panels. Provide louvers top and bottom for adequate ventilation.
7. Hinged front doors over gutter space to provide access to interiors. Doors are not to be provided over operating handles. Hold closed with captive knurled head screws.
8. All sections same height, except for pullboxes.
9. Paint units with one (1) coat of zinc chromate metal primer and two (2) finished coats of gray enamel.
10. Provide barriers between each section of switchboard. Openings in barriers for bus shall be closed with snug fitting, non-hygroscopic, arc resistant materials such as "Lebonite". Similar barriers shall be placed between switchboard and pullbox. Minimum thickness 1/4".
11. Provide UL label for entire switchboard, including short-circuit rating.

**B. Pullbox Over Switchboard**

1. Provide pullbox of same type of construction and finish as the distribution switchboard where and if required for conduit terminations.
2. Provide (if pullbox is utilized) cable supports for horizontal support of cables. Construct supports of 3/4" conduit loosely enclosed by strong fiber tubes. Space supports no more than 24 inches horizontally and 6 inches vertically.
3. Where cable pull sections or top cable pullboxes contain Utility Co. service cables, provide utility acceptable sealing means.



C. Bussing

1. Copper of 98 percent minimum conductivity copper or electrical grade aluminum.
2. Bolted Connections: Bus conductors interleaved to secure maximum contact areas. Tin-plated joints and contact areas. All bus connections shall be bolted and accessible for tightening from the front.
3. Bracing: 200,000 amperes (Root Mean Square) continuous symmetrical short circuit current.
4. Provide full capacity neutral unless otherwise indicated on plans.
5. A ground bus with minimum capacity equal to the larger of, 33 percent of main thru phase bus capacity, or one (1) - 2" x 1/4" copper bus shall be furnished, firmly secured to and electrically connected each vertical section structure, and shall extend the entire length of the switchboard. Incoming ground lugs shall be furnished. Other ground lugs for feeder circuits and grounding type bushings shall also be supplied.
6. Connect neutral bus to ground bus with removable link.

D. Feeder Installation and Termination

1. Bolted and accessible. Hardware shall be high-tensile strength, zinc plated.
2. Group cables paralleling one another and arranged so as to permit easy insertion of a clamp-on ammeter on each cable.

E. Utility Metering

1. Where indicated on the drawings, furnish a separate barriered-off Utility Metering Compartment complete with hinged sealable door. Bus work shall include provisions for mounting Utility Co. current transformers and potential transformers or potential taps as required by Utility Company. Provide Service Entrance Label and provide necessary applicable service entrance features per New York City Electrical Code. Construction of metering cubicle section to be in accordance with Utility Co. specifications for secondary metering.



F Customer Metering

1. For each service switch, except switches serving fire pumps, provide a separate customer metering compartment with front hinged door and include the following:
  - a. Current transformers.
  - b. Potential transformers including primary and secondary fuses with disconnecting means.
  - c. Multifunction power meters suitable for a 3 phase, 4 wire, wye configuration. Provide one (1) meter for Ampere measurement and one (1) meter for Voltage measurement. Meters shall be Electric Industries/Guage Tech 3DAA for Ampere readings and 3DVA120 for Voltage readings, or approved equal.
  - d. Provide mounting kit for each meter.

G Service Switch and Switchboard Overcurrent Devices

1. Devices shall be manually operated except devices requiring ground fault protection or shunt trip which shall be electrically operated unless otherwise indicated. All overcurrent devices shall be three (3) pole unless otherwise noted on drawings.
2. Bolted pressure switches
  - a. Application: Switches 1200 amperes and larger, except those on the line side of step-up transformers.
  - b. Protective devices shall be bolted pressure type as manufactured by Pringle. Each switch shall be UL listed for 100% of their continuous rating without exceeding 60°C rise over maximum of 40°C ambient.
  - c. Fusible switches shall be furnished with Class L fuse clips and UL labeled for 200,000 AIC. Furnish fuse sizes as shown on the drawings. Switch contact interrupting capacity shall be 12 times the continuous rating of the switch.
  - d. Fuse access door shall be mechanically interlocked with the operating handle. Operating handle shall have provisions for triple padlocking the switch in the open position.
  - e. The switch shall utilize a stored energy dead front operating mechanism including disk springs, compressed and released by the operating handle, to provide quick positive switching action independent of the speed of the operating handle.



- f. Switches shall be (manually operated Pringle Type QA) (Electrically tripped switches designed to be closed only after the opening spring has been charged, ready for electrical opening by solenoid or manual opening by the mechanical pushbutton Pringle type CBC or type FP.)

3. Fusible Circuit Breaker

- a. Application: Switches 1200 amperes and larger.
- b. Protective devices shall be high pressure contact type, furnished with Arc chute, positive On-Off indication, quick-make and emergency open-quick break.
- c. Furnished with fuse mounting bolts with captive washers, Class L fuse clips and U.L. labeled for 200,000 AIC. Furnish fuse size as indicated on drawings.
- d. Contacts shall be capable of making and breaking, a minimum of twelve (12) times the switch rating, without fuse assistance, at 600 volts, 60 Hz.
- e. Fuse access door shall be mechanically interlocked with the operating handle. Operating handle shall have provisions for triple padlocking the circuit breaker in the open position.
- f. Switch shall be UL listed per Standard 977, fused power Circuit Devices, and 100 percent rated.
- g. Switches shall be equipped with electric trip (shunt trip).
- h. Switches shall be G.E. HPC series or approved equal.

4. Fusible Switches

- a. Application: Switches 800 amperes and below.
- b. Protective devices shall be quick-make quick-break fusible switches as manufactured by Cutler Hammer Type FDP or approved equal of Square D, or Siemens. Fusible switches 30 amperes through 600 amperes shall be furnished with rejection type fuse clips. 800 Amp fusible switches shall be furnished with Class L fuse clips. Switches shall incorporate safety cover interlocks to prevent opening the cover with the "on" position or prevent placing the switch in the "on" position with the cover open; provide defeater for authorized personnel. Handles shall have provisions for triple padlocking and shall clearly indicate the "on" or "off" position. Front cover doors shall be padlocked in the closed position.



- c. The 400 through 800 ampere switches shall be designed to accommodate UL listed shunt trip.
5. Ground Fault Protection System
- a. Provide ground fault protection for all distribution switchboard overcurrent devices, rated over 800 Amperes, UL listed in accordance with UL 1053.
  - b. Front panel mounted on switchboard or other assembly so that they are visible and not behind any door or cover.
  - c. Include pickup, adjustable over a ratio of approximately 100 to 1200 amperes and time delay, adjustable from approximately .1 to .5 second.
  - d. Set relays as recommended by manufacturer.
  - e. Signal indicating that relays have actuated. Relay and signal are to require manual resetting.
  - f. Sealable transparent cover or other positive means to prevent tampering.
  - g. Sensing transformers mounted in assemblies with overcurrent protective devices. Relays and sensing transformers coordinated by manufacturer of relays.
  - h. Provide ground fault Indicating Ammeter for switchboard main overcurrent device.
  - i. Insulate sensing transformers for not less than 600 volts.
  - j. Sensing transformers are to surround all circuit conductors, and neutral conductor. All cable conductors are to be bundled and tied where they pass through sensing transformer, and to maintain proper spacing as specified by sensing transformer manufacturer.
  - k. Equip each overcurrent protective device with an electric shunt trip which is to be actuated by the ground fault relay to open the protective device on ground fault.
  - l. Design shunt trip for 120 volts operation and to operate reliably as low as 55 percent of rated voltage.
  - m. Furnish fused control power transformers to provide 120 volts for shunt trip circuits where necessary.
  - n. Provide test panel to test the ground fault system.
  - o. Where main and one or more branch overcurrent devices require ground fault protection. Provide ground fault protection for all branch devices and provide a





zone interlocking system which permits instantaneous tripping of branch while sending blocking signal to upstream devices to delay tripping.

- p. Factory install all wiring between relays, shunt trip and source of tripping power.
- q. System shall be as manufactured by Cutler Hammer, utilizing Cutler Hammer Type GFR ground fault relays or approved equal of Square D or Siemens-Allis.

6. Molded Case Breakers

- a. Protective devices as shown shall be molded case circuit breakers, built, tested and UL labeled per UL 489.
- b. Breakers 100 ampere through 400 ampere frame shall be thermal-magnetic trip with inverse time current characteristics. Breakers 225 ampere through 400 ampere shall have continuously adjustable magnetic pick-ups of approximately five to ten times trip rating.
- c. Breakers 600 amperes frame and above shall have solid-state trip complete with built-in current transformers, solid-state trip unit and flux transfer shunt trip. Breakers shall have trip rating plugs with ratings as indicated on the drawings. Rating plugs shall be interlocked so they are not interchangeable between frames and interlocked such that a breaker cannot be latched with the rating plug removed. In lieu of rating plugs, breaker may have internal, concealed adjustment screw, adjustable 20 - 100% of frame. Settings of adjustment screw shall be tabulated with shop drawing submission and field set by this Contractor.
  - 1. Breakers shall have built-in test points for testing long delay, instantaneous and ground fault functions of the breaker by means of a 120 volt operated test kit. Provide one test kit capable of testing all breakers 600 ampere and above.
  - 2. Solid-state instantaneous elements shall be continuously adjustable from approximately 4 to 8 times the trip rating, with short time adjustment from instantaneous to 10-cycle delay for coordination purposes. Provide override feature for instantaneous tripping on high magnitude faults.
  - 3. Provide for all frame sizes over 800 amperes, ground fault protection with adjustable pick-up rating not exceeding 1200 amperes; ground fault time delay shall be adjustable 0.1 to 0.5 seconds. Breakers 1200A through 2500A frame on the drawings shall be UL listed and labeled for 100 percent application per NEC.
  - 4. Supply to meet or exceed specified short circuit bracing, furnish limiters or current limiting mechanisms.



- d. Circuit breakers shall be Cutler Hammer Series C or equal of Square D.
- H. Fuses
1. Switches over 600A
    - a. UL class L current limiting types, capable of holding 500% rating for four (4) seconds.
    - b. Capable of operating properly on a short circuit of 300,000 symmetrical amperes Root Mean Square.
    - c. Fuses shall be Bussman System 300, low peak yellow KRP-C or approved equal.
  2. Switches 600A and below
    - a. UL class RK1 dual element current limiting type, capable of holding 500% rating for 10 seconds.
    - b. Capable of operating properly on a short circuit of 300,000 symmetrical amperes Root Mean Square.
    - c. Time delay to permit starting current to pass through when sized at 125 percent of full load current.
    - d. Fuses shall be Bussman LPN-RK (250 V) and LPS-RK (600 V) or approved equal.
  3. Provide fuses at a voltage beyond their operating voltage.
  4. In order to satisfy required series rated interrupting capacity of downstream devices, contractor may utilize UL Class J fuses for feeders supplying circuit breaker type panels for all switches 600 Ampere and below. Fuses shall then be Bussman Low-Peak, LPJ\_SP (600V) or approved equal.
- I. Nameplates
1. Engraved nameplates shall be furnished for all mains and feeder circuits including control fuses and also for all indicating lights and instruments. Nameplates shall give load served, item designation and feeder and conduit sizes as well as switch size, fuse class and ampere rating and/or frame size and appropriate trip rating. Furnish Master Nameplate giving switchboard designation, voltage ampere rating, short circuit rating, manufacturer's name, general order number and item number.
  2. Where circuit breakers or fuses are applied in compliance with listed series combination ratings, the supply feeder overcurrent device and the load equipment (panelboard, distribution panel, MCC, etc.) shall have an additional nameplate with marking: CAUTION. SERIES COMBINATION SYSTEM RATED \_\_\_\_\_



AMPERES. IDENTIFIED REPLACEMENT COMPONENTS REQUIRED.

J. Finish

1. All exterior and interior steel surfaces of the switchboard shall be properly cleaned and provided with a rust-inhibiting phosphatized coating. Color and finish of the switchboard shall be ANSI 61 and use the manufacturer's standard process.

K. Spare Fuse Cabinet

- a. Mount spare fuses in a cabinet equipped with hinged doors fitted with windows to permit observation of the fuse sizes. Provide clasp locking device with provisions for padlocking.

L. Transient Voltage Surge Suppression System: Install per Section 16055.

M. Manufacturers: Switchboard shall be as manufacturer by Cutler Hammer or approved equal of Square D, or Siemens.

2.02 SERVICE GROUNDING HARDWARE

A. Ground clamp.

1. Heavy duty type. Malleable Iron, hot dipped galvanized. O.Z. Gedney type "G" or approved equal.

B. Ground Hub

1. Malleable iron, hot dipped galvanized. O.Z. Gedney type GH-G, or approved equal. Use to terminate ground conductor run in conduit to ground clamp.

C. Ground Strap

1. For multiple ground conductor applications. Copper O.Z. Gedney type GES or approved equal. Use between ground clamp and multiple ground hubs.

D. Miscellaneous fittings shall be malleable iron, hot dipped galvanized.

E. Ground Terminals and Clamps

1. Ground rod with outer copper layer over a rigid steel core. Minimum : 3/4" X 10'-0" long. Comply with UL 467. Shall be Heary Bros. Copperweld or approved equal.
2. Four-wing copper ground plates shall be 3 1/2" X 18", 20 gauge, as manufactured by Heary Bros. or approved equal.



3. Utilize heavy-duty bronze with screw pressure type stainless steel bolts and nuts.

## 2.03 METER BANKS

### A. General

1. Meter banks shall be field fabricated utilizing a through bus compartment, bus sized to service switch capacity; Consolidated Edison Company approved 120/240 volt single phase 3 wire, or 120/208 volt three phase, 4 wire meters as noted on drawings; Meters; and Fusible Pullouts rated 200 Amperse, 240 volts. 2 pole or 3 pole, fused as indicated on drawings siemans TFP series.
2. Submit shop drawings indicating arrangement of Bus Compartment, Spare lugs, Meters, Auxiliary gutters, Fusible Pullout compartment, Field Installed wiring between bus, meter, and fusible pullout, and space for future/spare meters. Shop drawings shall be prepared by switchboard manufacturer.

### B. Bus Compartment

1. Bus shall be sized per NYC Electrical Code for indicated capacity. Bus shall be braced for 200,000 RMS symmetrical, 3 phase amperes.
2. Provide necessary lugs on bus to cable connect to each meter and indicated future or spare meters. Each tap shall be a minimum of 200 ampere, 3 phase takeoff, unless larger size indicated on drawings.

### C. Utility Company Meter

1. Meter sockets shall be single position Siemens Cat # WRH-173CRF Series, with Kit Cat. # UX056 for insulated neutral as approved by Consolidated Edison Company for use on 120/240 volt single phase, 3 wire, 200 amperes service or approved equal.
2. Meter sockets shall be single position Siemens Cat# WRH173 GR with Kit Cat. No. UX056 approved by Consolidated Edison Company for use on 120/208 volt, three phase, 4 wire 200 ampere service or approved equal.
3. Mount meters with minimum spacing as required by Consolidated Edison Company.

### D. Fusible Pullouts

1. Fusible Pullouts shall be Siemens type TFP, 200 Amperes, 240 Volts, fused and number of poles as indicated on drawings. Pullouts shall be mounted in custom wireway above Utility Company meters.

### E. Miscellaneous



1. For back to back meter banks this contractor shall furnish and install necessary Kindorf support, floor to ceiling, to attach bus compartment, meter pans, Wireway with Fusible Pullouts, auxiliary gutters, conduit, etc.

F. Manufacturers: Same as Switchboards.

#### 2.04 CON EDISON TRANS-"S" AND SWITCH COMBINATION

- A. Provide Con Edison approved Trans-S unit with fusible boltswitch as manufactured by Delta Metal Products Company Inc. Unit shall be 400 Ampere, 3 phase, 4 wire, 240 volts. Remove bonding strap when not used as service switch. Provide fuses as indicated on drawings. Cabinet shall be U.L., Con Ed, and New York City Advisory Board approved. Cabinet shall be wall mounted so live parts are minimum 24" above finished floor.

### PART 3 EXECUTION

#### 3.01 SECONDARY ELECTRICAL SERVICE

- A. The secondary electrical service will be 120/208 volts, 3 phase, 4 wire, wye connected.
- B. The contractor shall furnished and install all necessary sleeves, conduit, wire, manholes, service end box, copper details, limiters, etc. as indicated on drawings and as required by Utility Co. to facilitate receipt of electric service.
- C. All work pertaining to service entrances and service and metering equipment shall be installed in accordance with the Utility Company requirements and in collaboration with their representative. Provide C.T. cabinets, constructed in accordance with Utility Companies standards and provide interconnect wiring to all Utility Company metering devices.
- D. A housekeeping pad or pedestal foundation 6" high and extending 5" from all sides of the service equipment and all switchboards will be provided by others. Submit exact dimensions of required pad to General Contractor.
- E. This Contractor shall furnish and install all fuses. Size as indicated on drawings. All overcurrent devices are three (3) pole unless otherwise noted.

#### 3.02 GROUNDING

- A. Ground service equipment, conduit systems, supports, cabinets, transformers, poles, fixtures, etc., and the grounded circuit conductors in accordance with the latest issue of the New York City Electrical Code and these Contract documents.
- B. Provide bonding jumpers and wire, grounding bushings, clamps, etc., as required for complete grounding. Route ground conductors to provide the shortest and most direct path to the ground electrode system. Provide ground connections with clean contact surfaces by exothermic weld,



or using listed pressure type connectors. Install ground conductors in conduit. Make readily accessible connections to a continuous, metallic, underground cold water piping system at a point where it enters the building. If this is not practical connect to a cold water pipe of adequate current carrying capacity as close as possible to the meter and provide a meter jumper. Make connections to the water pipe so as to ground the conduit enclosing as well as the conductor. Bond cold water pipe system to separate grounding electrodes, per Code requirements.

1. Provide two (2) ground rods or four wing type grounding plates and connect to service ground by grounding electrode conductor. Ground terminals shall be spaced minimum 8'-0" apart. Contractor may delete one (1) ground terminal if a maximum resistance of 5 ohms to ground with a single ground terminal can be demonstrated.
- C. Structural steel which is not intentionally grounded shall be bonded to the grounded conductor at the service equipment or other location as permitted by code. Point of the attachment to building steel shall be accessible.
- D. Provide a separate grounding conductor, securely grounded on each end of section of plastic or flexible raceways. Route inside raceway. Size in accordance with New York City Electrical Code.
- E. Provide grounding type bushings for feeder conduits which originate from the service switchboards and individually bond this raceway to the ground bus in the main switchboards.
- F. Connect the neutral bus in the main service switchboards to the ground bus by means of removable link.
- G. Provide service grounding for dry-type transformer secondaries.
- H. Provide service ground for emergency generator in accordance with code requirements.

**END OF SECTION 262400**



## SECTION 262416

### ELECTRICAL DISTRIBUTION SYSTEM

#### PART 1 GENERAL

##### 1.01 GENERAL REQUIREMENTS

- 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. Work of this Section, as shown and specified, shall be in accordance with the requirements of the Contract Documents.

##### 1.02 WORK INCLUDED

- A. Work of this Section includes all labor, materials, equipment, hoisting rigging and services necessary to complete the Electrical Work as shown on the drawings and specified herein, including, but not limited to, the following:
1. Provide electrical distribution system in accordance with the Contract Documents.

##### 1.03 QUALITY ASSURANCE

- A. Manufacturers Instructions:
1. In addition to the requirements of the specifications comply with manufacturers instructions and recommendations for all phases of work.
- B. Except as modified by governing codes and by the Contract Documents, comply with the applicable provisions of the New York City Electrical Code, and recommendations of the following:
1. Panelboards: Comply with latest versions of, Underwriters Laboratories Standards UL 50 for cabinets and boxes, UL 67 for panelboards, and UL 98 for enclosed and Dead front switches. National Electrical Manufacturer's Association Standard PB-1, PB-1.1 and KS1 for enclosed distribution switches; and Federal Specifications W-P-115C.
  2. Circuit Breakers: Comply with latest versions of, Underwriters' Laboratories Standards UL-489, and National Electrical Manufacturers' Association Standard AB-3, and Federal Specifications W-C-375B, and IEC 157-1.



3. Contactors: Comply with Underwriters Laboratories standards UL 508.
4. Fusible switches: Federal Specification W-C-865C.

1.04

SUBMITTALS

- A. Shop Drawings: Submit shop drawings and manufacturers' data for the following items:
  1. Panelboards:
    - a. Show main devices and lug sizes; branch circuit device sizes and arrangement; bus ampacities; dimensions and construction; gutter dimensions; protective coating; and all pertinent details of panel, enclosure, cover, and method of securing cover and lock.
    - b. Panel directory.
    - c. Short Circuit Ratings: Indicate device short circuit ratings, indicate UL listed series ratings with integral or remote upstream overcurrent device. Indicate all bus short circuit bracing.
    - d. Prepare printed table for each panel for approval of engineer listing trip rating, and frame/switch rating, of each overcurrent device including main device if applicable. Also list device and panel U.L. listed short circuit rating, including series ratings with integral or remote upstream device.
  2. Contactors: Dimensions, catalogue data, number of poles, coil voltage and contact ratings.
- B. Test Reports. Submit certified test reports showing compliance of the following items in accordance with the contract documents.
  1. All panelboards specified by this section shall be given a 60 Hz A.C., dielectric test. Dielectric test shall be phase to phase, and phase to ground, at twice rated voltage plus 1000 volts, but not less than 1500 volts, for one (1) minute, prior to shipment from factory. A test voltage which is 20% higher than that in the one minute test may be applied for one (1) second as an alternative to the one (1) minute test. The date of the test and the name and title of the individual certifying the test shall be clearly shown on a label affixed to the equipment.
- C. Maintenance Materials
  1. Manufacturer shall supply installation instructions and NEMA Standard PB1.1.

**PART 2 PRODUCTS**





- 2.01 LIGHTING AND POWER PANELS (CIRCUIT BREAKER TYPE)
- A. Provide panels consisting of an assembly of branch circuit switching and protective devices mounted inside a dead front enclosure. Provide the number and size of these branch circuit devices as indicated on drawings.
- B. Provide the following modifications and additional equipment as shown on the drawings or called for in specifications:
1. Main circuit breakers.
  2. Split buses.
  3. Subfeed switches.
  4. Feed-through lugs. Provide for all two (2) section panels with one (1) main circuit breaker to facilitate connection to second section.
  5. Sub feed lugs. Provide for all two (2) section panels with no main circuit breaker to facilitate connection to second section.
- C. Panelboard Interior:
1. Rigid removable assembly of copper bus bars and interchangeable bolted branch circuit devices. Bus current rating shall be determined by heat rise test conducted in accordance with UL 67, or as required by applicable code whichever is more stringent.
  2. Bus bars drilled to permit branch circuit devices of all sizes and number of poles to be interchangeable and installed in any spare space of sufficient size, without disturbing adjacent units, removing main bus or branch circuit connectors, and without machining, drilling or tapping.
  3. Arrange bus in sequence or distributed phasing so that multipole circuit breakers can replace any group of single pole circuit breakers of the same size.
  4. Main bus current capacity shall be sized according to feeder switch size or panel main C.B. frame size where applicable.
  5. Provide full size ground and neutral buses unless otherwise noted on drawings in each panel. Provide isolated ground bus and 200% rated neutral bus as noted on drawings.
- D. Enclosure:
1. Code gauge steel box galvanized.



2. Weld a ground connector (O.Z. QGL) to inside of box, for all panels with isolated ground bus or no ground bus.
3. Flush mounted in finished areas and where indicated. Surface mounted elsewhere.
4. 20 inches wide minimum. Provide gutter space in accordance with applicable codes. Where feeder cable supplying the mains of a panel are carried thru its box, or where two (2) section panels are furnished with main circuit breakers in each section, the box shall be sized to provide the additional required wiring space for feeder and feeder tap to panel.

E. Front:

1. Heavy code gauge steel as required to maintain panel face flat. Hinged door in door construction. Power panels may have hinged side gutters to provide access to interior in lieu of door in door construction. Doors shall have flush type cylinder lock. Front shall be cleaned, primed, and a finish coat of gray ANSI 61 paint applied.

F. Terminal Lugs:

1. Locate main lugs properly at top or bottom, depending on where main feeder enters. Terminations shall be approved for 75°C rated wire.

G. Circuit Breaker Overcurrent Devices:

1. Plastic molded case. Completely sealed enclosure. Toggle type operating handle. Trip ampere rating and ON/OFF indication clearly visible. Tested and labeled per UL-489.
2. Silver alloy contacts with auxiliary arc-quenching devices.
3. Bolt in place to main bus.
4. Bolted type terminals Underwriters' Laboratories approved for copper conductors.
5. 100 A to 400 A frame circuit breakers shall be thermal-magnetic trip-free, trip-indicating, quick-make, quick-break, with inverse time delay characteristics. Single handle and common tripping multipole breakers.
6. 600 A frame and larger circuit breakers shall be solid-state trip, trip-free, trip indicating, quick-make/quick-break, with adjustable inverse time characteristics; Siemens Sensitrip Type, or approved equal of Square D or Cutler Hammer.
7. Locate next to each breaker or space unit an individual number button. Where multiple-section panelboards occur, no two sections are to have like numbers.



- 8. All circuit breakers shall be capable of being padlocked in the "OFF" position. Provisions for locking shall not be removable when the lock is removed.
- 9. See Section 16210 Lighting Control System for additional requirements for controllable type circuit breakers and panels.

H. Minimum Frame and Electrical Panel Ratings:

- 1. Minimum Frame Size shall be 100 Amperes.
- 2. Circuit breaker interrupting capacity shall be as indicated on drawings, if no indication on drawings minimum shall be as specified herein.
- 3. To obtain required A.I.C. capacities, panel branch and main circuit breakers shall be fully rated. Where permitted by Code, Contractor may utilize a U.L. listed series rating with the upstream overcurrent device protecting the panel feeder, equal to or greater than the required A.I.C. When U.L. listed series ratings with indicated upstream overcurrent device protecting the panel feeder are not permitted by Code, or do not meet the requirements specified on the drawings, contractor shall furnish a fully rated panel, or current limiting Main Circuit breaker in the panel and branch breakers which have a U.L. listed series A.I.C. which meets or exceeds the requirements. Minimum AIC shall be as follows:

- a. No 120/208 volt C.B. shall be rated less than 10,000 AIC. No 265/460 volt C.B. shall be rated less than 14,000 AIC.
- b. Panels whose feeders are protected with fused overcurrent device.

	Lighting Panel	Power Panel
120/208	200,000 AIC up to 100A, Fuse 100,000 AIC over 100A Fuse	100,000 AIC

- c. Panels whose feeders are protected with circuit breakers.

	Lighting Panel	Power Panel
120/208	22,000 AIC	42,000 AIC

- 4. Panels requiring main circuit breakers of the current limiting type, as noted on panel schedules or elsewhere in this specification shall have main breakers as follows in lieu of those specified under Item 2, above.
  - a. Circuit breakers shall be equal to Siemens fuseless type and shall be current limiting, or equal of Square D or Cutler Hammer.



- b. Breakers 100 ampere frame shall be thermal magnetic trip with inverse time current characteristics. Breakers 400 amp and 250 ampere frame shall be solid-state trip complete with built in current transformers solid-state trip unit and flux transfer shunt trip. Breakers shall have easily changed trip rating plugs with trip ratings as indicated on the drawings. Rating plugs shall be interlocked so they are not interchangeable between frames and interlocked such that the breaker cannot be latched with rating plug removed. In lieu of rating plugs, 20%-100% adjustable continuous current rating is acceptable. Adjustment screw shall be concealed. Breakers shall have built in test points for testing long delay and instantaneous and ground fault (where applicable) functions of the breaker by means of 120 volt operated test kit.
- c. Current limiting circuit breakers shall protect all molded case breakers down stream as shown on the drawings. No deviations from this provision shall be acceptable. Manufacturer shall submit copy of UL series rated listing with downstream device, proving the protection, from both peak currents and I squared T energy. Utilize breakers providing the following UL Series listed short circuit ratings.

<u>Main C.B. Trip</u>	<u>Short Circuit Rating</u>
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120/208 Volt <u>Lighting Panel</u>	
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Up to 250 A	200,000 AIC
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120/208 Volt <u>Power Panel</u>	
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Up to 400 A	200,000 AIC
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- 5. For lighting circuits controlled at panel, provide C.B.'s rated for switching load controlled i.e. fluorescent, HID etc.
  - 6. Provide personal ground fault protection type C.B. (1 or 2 pole – 5 ma type) where required by code or called for on drawings and for all 120 volt single phase 20 ampere receptacles in bathrooms, on rooftops, in crawl spaces, within 6' of outside edge of sinks, located outdoors, and on kitchen countertops.
  - 7. Provide equipment ground fault protection type C.B. (30 ma Type) where required by code or called for on drawings and for all pipe trace heating systems.
- I. Provide main breakers in sections of multi-section panels and when two (2) or more panels are served by a common conductor or over-current device.



- J. Panelboards shall be labeled with UL listed, series, short circuit rating. Series rating shall cover all trip ratings of installed frames. It shall state conditions of UL series rating including:
  - 1. Size and type of upstream device.
  - 2. Branch devices which can be used.
  - 3. UL listed rating.
- K. Panelboards shall be Siemens Sentron Type, as modified by these specifications or approved equal of Square D or Cutler Hammer.

## 2.02 FUSIBLE PANELBOARDS

- A. Provide fusible panelboards consisting of an assembly of branch circuit switching and protective devices mounted inside a dead front enclosure. Provide the number and size of branch circuit devices as indicated on the drawings.
- B. Main bus current capacity shall be sized according to feeder switch size. Bus shall be copper, sized to limit maximum temperature rise to 50°C above 40°C ambient, when conducting 100% of rated current, or as required by local code whichever is more stringent.
- C. Bus Bracing: 100,000 ampere (Root Mean Square) continuous symmetrical short circuit current, unless otherwise noted on drawings.
- D. All bus connections shall be made with two bolts or more.
- E. The switch to bus connector links shall have current-carrying capacity equal to the maximum rating of the switch.
- F. Switches shall be quick-make, quick-break type.
- G. Fuseholders shall be of the high pressure type using a compression coil spring.
- H. All switches shall be provided with an operating handle which can be triple padlocked in the "OFF" position.
- I. A cover interlock shall prevent opening the switch door unless in the "OFF" position.
- J. All switches shall be heavy duty type, horsepower rated.
- K. All wire terminations shall be rated for minimum 75°C wire.
- L. Enclosure:
  - 1. Code gauge steel box galvanized.



2. Weld a ground connector (O.Z. Type QGL) to inside of box for all panels without ground bus.
3. Surface mounted.
4. Front shall be heavy code gauge steel as required to maintain panel face flat. Hinged door in door construction, or hinged side gutters. Front shall be primed and a finish coat of gray ANSI 61 paint applied.
5. Siemens Sentron Type F1 or F2 as modified by these specifications or approved equal of Square D or Cutler Hammer.

M. Manufacturer: Siemens or approved equal of Square D or Cutler Hammer.

### **PART 3 EXECUTION**

#### **3.01 PANELBOARDS**

##### **A. Installation:**

1. Install in accordance with manufacturers installation instructions and these specifications.
2. Mount Panel 4 feet to panel center but with maximum height of six (6) feet six (6) inches to handle of topmost switching device.
3. Mount surface type panels 1/4" off wall.
4. Where feeder cable supplying the mains of a panel are carried thru its box, or where two (2) section panel is furnished with main circuit breakers in each section; connect panels to main feeder by insulated parallel gutter taps (O.Z. Electrical Manufacturing Company – Type XTP with XTPC cover or approved equal by Thomas and Betts or Burndy). Full size tap for two panels on a common feeder, half the main cable capacity for three or more panels per feeder.
5. Neatly arrange branch circuit wires and tie together in each gutter with waxed twine or Thomas & Betts nylon "Ty-Raps", or approved equal at minimum intervals.
6. Plug all knockouts removed and not utilized.

##### **B. Indexing and Identification:**

1. After installations are complete, provide and mount under sturdy transparent shield in the directory frame of each panel door, a neat, accurate and carefully typed directory properly identifying the lighting, receptacles, outlets and equipment each branch circuit breaker controls.



2. Include on directory, the panel identification, the cable and conduit size of panel feeder, and the feeder origination point.
3. In addition to identification nameplates described elsewhere, where current breakers or fuses are applied in compliance with listed series combination ratings, the supply feeder overcurrent device and the load equipment (panelboard, distribution panel, MCC, etc.) shall have an additional nameplate with marking: CAUTION. SERIES COMBINATION SYSTEM RATED \_\_\_\_\_ AMPERES. IDENTIFIED REPLACEMENT COMPONENTS REQUIRED.

C. Grounding

1. Bond grounding bushing on feeder conduit to ground lug (ground bus where specified) in panel with a copper ground conductor. Ground conductor shall be sized as follows:

<u>Feeder</u>	<u>Required Ground Conductor</u>
Up to 1/0	#6
2/0 - 3/0	#4
4/0 - 350 MCM	#2
500 - 600 MCM	1/0

2. Tie all branch circuit grounding bushings together by running a copper ground conductor through them and connecting to the panel grounding lug (ground bus where provided). Grounding conductor shall be sized as follows: based upon largest branch circuit.

<u>Branch Circuit</u>	<u>Required Ground Conductor</u>
Up to #2	#8
#1 thru 1/0	#6
2/0 thru 3/0	#4
4/0 thru 350 MCM	#2
500 thru 600 MCM	1/0

3.02 GROUNDING

- A. Provide grounding in accordance with the New York Electrical Code requirements, and as noted on drawings and described elsewhere in specifications.

**END OF SECTION 262416**



NEW YORK CITY DEPARTMENT OF  
DESIGN + CONSTRUCTION

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## SECTION 262923

### ELECTRICAL POWER EQUIPMENT

#### PART 1 GENERAL

##### 1.01 GENERAL REQUIREMENTS

- 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. Work of this Section, as shown or specified, shall be in accordance with the requirements of the Contract Documents.

##### 1.02 WORK INCLUDED

- A. Work of this Section includes all labor, materials, equipment and services necessary to complete the Electrical Work as shown on the drawings and specified herein, including, but not limited to, the following:
  - 1. Disconnect switches.
  - 2. Manual motor starters.
  - 3. Power wiring to devices.
  - 4. Control wiring as indicated on contract documents or called for herein.

##### 1.03 RELATED WORK

- A. Basic materials and methods as specified in Section 260519.

##### 1.04 QUALITY ASSURANCE

- A. Manufacturer's Instructions:
  - 1. In addition to the requirements of these Specifications, comply with manufacturer's instructions and recommendations for all phases of work including installation of equipment furnished by others.



- B. Except as modified by governing codes and the Contract Documents, comply with the applicable provisions and recommendations of the following:
1. Disconnect Switches: Comply with National Electrical Manufacturer's Association Standard KS-1, Federal Standard W-S-865C, U.L.98, and U.L. 50.
  2. Motor Controllers: Comply with Underwriters' Laboratories' Standard UL-508, and National Electrical Manufacturers' Association Standard ICS-2.
  3. Motor Control Centers: Comply with Underwriters' Laboratories Standard UL-845 and National Electrical Manufacturers' Association Standard ICS-2.

1.05 SUBMITTALS

- A. Shop Drawings: Submit shop drawings and manufacturers data for the following items:
1. All disconnect switches.
- B. Test Reports
1. All motor control centers specified by this section shall be given a 60 Hz A.C., dielectric test. Dielectric test shall be phase to phase, and phase to ground, at twice rated voltage plus 1,000 volts, but not less than 1,500 volts, for one (1) minute, prior to shipment from factory. A test voltage which is 20% higher than that in the one minute test. The date of the test and the name and title of the individual certifying the test shall be clearly shown on a label affixed to the equipment.
- C. Maintenance Materials: Deliver to the Owner at the Project Site the following quantities of items in size/color distribution as directed. Store in locations directed, in unopened containers and in a manner recommended by the manufacturer.
1. Tools
    - a. Deliver to the Owners representative all special tools required for proper operation and maintenance of the equipment provided. Submit comprehensive list of tools.

1.06 AGENCY APPROVALS

- A. Prior to installation of any work associated with MCC, this Contractor shall prepare necessary drawings and pay fees for submission to applicable agencies including New York City Advisory Board for all work. No work shall be installed without all required approvals.

1.07 PRODUCT HANDLING



- A. Protection: Use all means necessary to protect the materials of this Section before, during and after installation and to protect the installed work and materials of all other trades.
- B. Replacements: In the event of damage, immediately make all repairs and replacements necessary to the approval of the Commissioner and at no additional cost to the Owner.

#### 1.08 WARRANTY

- A. Electrical Power Equipment: Provide written 1 year material warranty issued by the manufacturer upon completion of the work.

## PART 2 PRODUCTS

### 2.01 DISCONNECT SWITCHES

- A. Provide for each motor 1/2 horsepower and above, a rated disconnect switch.
  - 1. Heavy-duty, single-throw knife switch with quick-make, quick-break mechanism, capable of full load operations. Horsepower rated and meeting National Electrical Manufacturers Association and U.S. Government Specifications for Class A switches.
  - 2. Provide with contact arc-quenching devices, such as magnetic blowouts or snuffing plates. Provide self-aligning switchblades with silver alloy contact areas, designed so that arcing upon making and breaking does not occur on the final contact surfaces. Provide with high pressure, spring loaded contact. Mount switch parts on high grade insulating base. \*\*For disconnect switches serving hydraulic elevators provide one N.O. and one N.C. auxiliary contact rated for 10 Amperes Continuous.
  - 3. Enclosure: National Electrical Manufacturers Association I with multiple knockouts on all sides and back, hinged door, and cover interlock which prevents door opening when switch is in ON position. Provide triple padlocking capability. Utilize National Electrical Manufacturers Association 3R (rain-tight) enclosure for exterior. Provide nameplate on each disconnect switch denoting equipment served.
  - 4. Size, fusing and number of poles as shown on plans or as required by code for motor installed. Provide horsepower rated switch to match motor load if no size is shown. Use 3-pole plus solid neutral switches unless otherwise noted. Provide where indicated and where required by code.
  - 5. Provide a ground lug, O.Z. Gedney type "KG" or equal for each disconnect and mount to enclosure.



6. Approved Manufacturers: Square D, or approved equal of Siemens or Cutler-Hammer.

2.02 MANUAL MOTOR STARTERS (Thermal Switch)

- A. Provide each motor below  $\frac{1}{2}$  horsepower with a manual motor starter as indicated on drawings.
  1. Starters shall have quick-make, quick-break toggle mechanism. Overload shall have field adjustment allowing up to  $\pm 10\%$  variation in ratings at nominal heater value. Cutler Hammer MSTOI for single pole and MSTO2 for two pole application, or approved equal by Square D or Siemens.
  2. The Contractor shall obtain full load current data from approved shop drawings and furnish and install appropriate plug-in heater unit in accordance with manufacturer's recommendations.
  3. Enclosure: NEMA 1 enclosures with knockouts. Cutler Hammer MSTOISN for surface mounting or MSTOIDN cover for flush mounting. Provide nameplate for each starter indicating equipment served. Provide NEMA 4 enclosure for outdoor application or where indicated to be weatherproof, Cutler Hammer MSTOIAH, or approved equal by Square D or Siemens.

**PART 3 EXECUTION**

3.01 MOTOR POWER AND CONTROL WIRING

- A. General:
  1. Provide all motor power wiring, for both large and fractional HP motors, unless otherwise noted.
  2. Install and wire all control devices that are part of the motor power circuit.
  3. The requirements of this Section are applicable to all other power consuming devices.
  4. Provide all control wiring for fan shutdown via fire alarm system as indicated on contract documents, or specified elsewhere. Control wiring for fan shutdown shall be terminated in starters and/or control panels per approved control wiring diagrams furnished by mechanical contractor.
- B. Motor Power and Control Wiring
  1. Install motor controllers where shown. Obtain the individual motor controllers, including approved manufacturers shop drawings, from the contractor who supplies them, and mount where shown on the plans. Check with other



Contractors, Architect and approved shop drawings to make certain mounting location is correct and does not interfere with other equipment, and is in accordance with all manufacturer's requirements for mounting.

2. Insure that motor rotation is correct and reconnect if necessary.
3. Provide motor feeder to starter and from starter to motor, including connections and wiring to and from disconnect switch. Support conduit feeder descending from ceiling on flanged floor fitting with conduit type fitting connecting to motor with 24-inch minimum of liquid-tight flexible steel conduit. All electrical field connections to motors and package machinery shall be made with liquid-tight flexible conduit.
4. Motor disconnect switches shall be mounted on adjacent wall or from the floor with unistrut supports. Switches shall not be mounted on fan housings.

### 3.02

#### MISCELLANEOUS EQUIPMENT CONNECTIONS

- A. All miscellaneous equipment will be provided under another Division; however, provide wiring for same, and make up all final electrical connections in accordance with manufacturer's recommendations. Where equipment in open areas is fed from wiring in the slab, terminate conduit in a flush coupling at the floor or suitable watertight box with telephone ell, from which point extend a rigid conduit nipple at least 8 inches above the floor, and provide flexible conduit connection to the equipment. Make all conduit connections at the floor watertight.
- B. Provide flexible metal conduit or Type "S" rubber cords, pigtailed, caps, etc., to provide an operating system. Provide all flexible cords with a grounding conductor. Ground all equipment.
- C. See "OUTLETS" Section for mounting heights.
- D. Refer to all equipment manufacturer Shop Drawings for details of equipment connections. Provide receptacles to match the cord and plug on the equipment furnished.
- E. Provide a disconnect switch for all fixed appliances in accordance with Electrical Code.
- F. No extra will be granted contractor for removal of indicated receptacle and reinstallation of correct receptacle due to contractor's failure to ascertain actual receptacle configuration requirements of equipment furnished prior to installation of receptacles.

### 3.03

#### ELEVATOR CONNECTIONS

- A. The elevators and associated equipment will be furnished, installed, and connected under a separate division of the specification. Provide disconnect switches and extend feeders from the disconnects to the equipment controllers. Provide power outlets and disconnect switch for the control of each car fan and lights and for lights and receptacles in elevator



shaft and in machine room where directed. Provide a receptacle, switch, and light for service at the bottom of each elevator pit. Provide empty conduits as called for in elevator specifications. Provide necessary equipment and wiring in conjunction with the elevator operation under power failures and fire conditions.

- B. Connect fire alarm system addressable relay contact to elevator feeder shunt trip devices isolation relay. Provide fire alarm system monitoring of elevator shunt trip control power source per NFPA-72.

3.04 TESTING

- A. Be available during tests of mechanical, miscellaneous equipment and elevator systems. Cooperate with all other contractors and make all electrical adjustments and changes required in the Work described above until equipment and systems are operating satisfactorily in the opinion of Commissioner.

3.05 GROUNDING

- A. Provide grounding in accordance with the New York City Electrical Code requirements, and as specified herein.
- B. Grounding of Motors: Bond grounding bushing on feeder conduit to ground log at starter and disconnect switch. Bond grounding bushing on feeder conduit and/or ground conductor to motor frame. If this is not feasible, extend ground conductor through an insulated bushed opening in the connection box and connect to motor base. Bond motor frame or base to metal piping or ductwork of system served by motor. Connection to piping or ductwork shall be accessible. Provide additional bonding jumper around any non-metallic fittings within 15'-0" of motor. Utilize Cadweld or approved equal listed compression type ground connections.
- C. Provide full size equipment ground conductor for each variable frequency drive and associated motor. Provide full size equipment ground to each elevator motor. Increase indicated conduit size to accommodate same.

**END OF SECTION 262923**



## SECTION 283111

### FIRE ALARM SYSTEM

#### PART 1 GENERAL

##### 1.01 GENERAL REQUIREMENTS

- 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. Work of this Section, as shown or specified, shall be in accordance with the requirements of the Contract Documents.

##### 1.02 WORK INCLUDED

- A. The work covered by this Section of the Specifications shall include all labor, equipment, materials, hoisting, rigging and services necessary to furnish and install a complete fire alarm system of the microprocessor based, software programmable, addressable, coded ("Temporal 3"), alarm (horns) type. It shall be addressable device point annunciated and also provide visual alarm strobe lights and supervised wiring with all operations as herein described and as shown on Drawings. The system shall consist of, but not be limited to, the following:
1. Fire alarm control panel (FACP).
  2. Remote annunciator panel.
  3. Addressable manual fire alarm stations.
  4. Addressable smoke sensors.
  5. Addressable heat sensors.
  6. Non-addressable alarm initiating, supervisory and status monitored devices shall be integrated into the fire alarm system via the Addressable Monitoring Module (AMM):
  7. Alarm indicating appliance to be integrated into the fire alarm system via the FACP indicating appliance (signal) circuits:
    - a. Alarm horns.



- b. Visual alarm strobe lights.
8. Alarm indicating appliance to be integrated into the fire alarm system via the FACP indicating appliance (signal) Circuits:
  - a. Alarm horns.
  - b. Visual alarm strobe lights.
9. Devices to be controlled by the FACP shall be provided with duct smoke sensor relays and/or individual Addressable Control Modules (ACM's) of quantities required.
10. System battery backup operation of 24 hours standby condition and 15 minutes of alarm load condition.
11. All New York City required system peripherals, placards operating instruction/riser diagram and holders, etc. shall be included in the system price.
12. Fire alarm system and central office connection panel fused disconnect switch.
13. Central Office Connection Panel including one (1) year of monitoring service.
14. As-built plans shall be by this contractor and submitted to Commissioner.
15. Provide all documentation required for final FDNY approval, including:
  - a. As-built drawings. Submission shall include three (3) hard copy sets of drawings with Fire Alarm Riser diagram, notes and symbol legend, acceptable to FDNY. Submission shall also include one set as-built CAD files on CD-Rom. Files shall be in a format readable by AutoCad 2007. As-built submission shall be made to Commissioner a minimum of fifteen (15) working days prior to initial FDNY field inspection. Engineer will verify as-builts and return to contractor a signed and stamped copy of the riser diagram for his use in obtaining final FDNY approval. Drawings found to not represent as-built conditions will be marked up and returned to contractor for correction, and held until field installation is verified by Engineer to match as-built drawings. Contractor shall be responsible for all delays and associated costs, including re-scheduling FDNY inspection caused by his failure to properly prepare or submit to Commissioner in a timely manner, as-built drawings of the Fire Alarm System.
  - b. Final Input/Output Matrix prepared per Appendix A A10.6.2.3.(9) of NFPA 72. Matrix shall be included on As-Built Riser diagram drawing submission.





- c. Written statement on the As-built Riser of either licensed electrician or licensed Fire Alarm Installation Company certifying that a functional test has been conducted of the Fire Alarm System and that the system is operating as designed and in accordance with the Final Input/Output Matrix. Statement to be signed after Engineer returns As-built signed and sealed drawings to Contractor.
  - d. As-built drawings shall be legible for printing at 11" x 17" size with As-built wording placed in the title block. Multiple sheets with the same title block but with different page numbers shall be used to fit the entire riser diagram, with related input/output programming matrix, statement, related notes and symbol legends.
  - e. Application for FDNY Inspection.
- B. The fire alarm system shall have sufficient capacity to incorporate all equipment and perform all functions as stipulated within these Specifications and the Drawings of this project.
- C. Drawings show the fire alarm system systematically. No added compensation shall be permitted for variations due to field conditions or the specific installation requirements of manufacturers.

### 1.03 APPLICABLE LISTINGS, CODES AND STANDARDS

- A. Except as modified by governing codes and by the Contract Drawings, comply with the applicable provisions and recommendations of the following:
- B. All equipment shall be UL listed for its intended use and conform to the latest UL Standards.
- C. Underwriters Laboratories Inc.: The system and all components shall be listed by Underwriters Laboratories Inc. for use in fire protective signaling system under the following standards as applicable:

UL 864/UOJZ, APOU	Control Units for Fire Protective Signaling Systems.
UL 268	Smoke Detectors for Fire Protective Signaling Systems.
UL 268A	Smoke Detectors for Duct Applications.
UL 217	Smoke Detectors Single Station.
UL 521	Heat Detectors for Fire Protective Signaling Systems.
UL 228	Door Holders for Fire Protective Signaling Systems.
UL 464	Audible Signaling Appliances.
UL 1638	Visual Signaling Appliances.
UL 38	Manually Activated Signaling Boxes.
UL 346	Waterflow Indicators for Fire Protective Signaling Systems.
UL 1971	Standard for Signaling Devices for the Hearing Impaired
UL 1481	Power Supplies for Fire Protective Signaling Systems.
UL 1711	Amplifiers for Fire Protective Signaling Systems.



- D. This installation shall comply with:
1. Americans with Disabilities Act (ADA).
  2. National Electric Code, Article 760 with NYC Amendments.
  3. National Fire Protection Association Standards: NFPA72-2002 with New York City Amendments.
  4. International Standards Organization (ISO): ISO-9001.
  5. Local Law 33 of 2007 (Chapter 9, Chapter 30, Mechanical Code, Appendix K & Q and other sections as they apply).
  6. Utilize listed and labeled Fire Alarm Equipment complying with the acceptance requirements of New York City Department of Buildings, Office of Technical Certification and Research.
  7. The requirements of the City of New York Building Department and the City of New York Fire Department.
  8. All wiring requirements shall meet the requirements of the Rules of the City of New York Section 4000-06.
  9. The fire alarm system and its installation shall comply with all other local codes and authorities having jurisdiction.

#### 1.04 RELATED DOCUMENTS

- A. Prior to the commencement of work, the Contractor shall obtain all permits necessary for installation of the work. All permit costs and inspections fees shall be included as part of the required work.
- B. Local requirements shall be adhered to with regard to submitting specifications, wiring diagrams, shop drawings and plans. Responsibility for furnishing the quantities of copies on cloth and/or paper, as directed by such requirements, shall be included as part of the Work of this Section.
- C. Prior to commencement and after completion of work, the Contractor shall notify all authorities having jurisdiction.
- D. The Contractor shall submit a letter of approval of the installation, from the local code authority, before requesting final acceptance of the system.



#### 1.05 RELATED WORK

- A. Basic materials and methods as specified in Section 26 05 19.
- B. The Contractor shall coordinate work in this Section with all related trades. Work and/or equipment provided in other Sections and related to the fire alarm system shall include, but not be limited to:
  - 1. Sprinkler waterflow alarm switches and valve tamper switches to be provided and installed by the Fire Protection/Sprinkler Contractor. They shall be wired and connected to the fire alarm system by the Contractor.
  - 2. Elevator recall control circuits and status contact(s) to be provided by the elevator control equipment. They shall be wired and connected to the fire alarm system by the Contractor. The operation of the elevators shall be in accordance with New York City Chapter 9, and 30; and Appendix Q and K.
  - 3. Fire, booster and/or jockey pump status contacts to be provided by the pump control equipment. They shall be wired and connected to the fire alarm system by the Contractor.
  - 4. Coordinate with all other subcontractors for interface with any and all other fire alarm system related devices.

#### 1.06 QUALITY ASSURANCE

- A. It is the intent of these Specifications to provide a complete fire alarm system that complies in all respects with the requirements of all applicable codes and standards. Equipment, material, installation practices, etc. that do not meet these requirements or do not meet the performance standards herein specified shall not be acceptable.
- B. All fire alarm system equipment furnished under this Specification shall be UL listed, under the appropriate category, as the product of a single manufacturer. All control equipment shall be listed under UL Category UOJZ as a single control unit. The manufacturer shall have been engaged in the production of this type of equipment for at least three (3) years and have a fully equipped services organization within proximity of the installation.
- C. Acceptance of substitutions, based on submittal documents furnished by the Contractor, shall only be construed as permission to proceed with the installation pending final test and approval of the system. The Contractor shall continue to bear the liability for replacement of substituted equipment if, in the opinion of the Owner or Engineer, the substitute equipment fails to perform as specified or fails to meet approval of all authorities having jurisdiction within three (3) months after scheduled Project completion.



- D. Numbers and types of fire alarm system devices or circuits shall be as shown on the Drawings and as herein described in this Section. Should any conflicts arise between and Drawings and/or this Section, regarding the quantities of devices or circuits, the higher quantity shall be considered as correct.
- E. It is the Contractor's responsibility to submit acceptable equipment for review by the Engineer. The Contractor shall bear all liability for damages arising from his failure to submit equipment that meets these Specifications, including, but not limited to, penalties for failure to meet construction deadlines.

#### 1.07 SUBMITTALS

- A. Provide list of all types of equipment and components provided. This shall be incorporated as part of a Table of Contents, which will also indicate the manufacturer's part number, the description of the part, and the part number of the manufacturer's product datasheet on which the information can be found.
- B. Provide description of operation of the system (Sequence of Operation), similar to that provided in Part 2 of this Section of the Specifications, to include any and all exceptions, variances or substitutions listed. Any such exceptions, variances or substitutions that were not listed and are identified in the submittal, shall be grounds for immediate disapproval without comment. The sequence of operation shall be project specific, and shall provide individual sequences for every type of alarm, supervisory, or trouble condition that may occur as part of normal or off-normal system use.
- C. Provide manufacturer's printed product data, catalog cuts, Seismic certification, and description of any special installation procedures. Poorly photocopied and/or illegible product data sheets shall not be acceptable and shall be rejected. All product datasheets shall be highlighted or stamped with arrows to indicate the specific components being submitted for approval.
- D. Provide manufacturer's installation instruction manual for specified system.
- E. Provide samples of various items when requested.
- F. Provide copy of NYS License to perform such work.
- G. Provide copies of NICET Level II Fire Alarm certifications for the two (2) technicians assigned to this project.
- H. Provide shop drawings as follows:
  - 1. Coversheet with project name, address and drawing index.
  - 2. General notes drawing with peripheral device backbox size information, part numbers, device mounting height information, and the names, addresses, point of contact, and telephone numbers of all contract project team members.



3. Device riser diagram that individually depicts all control panels, annunciators, addressable devices. Shall include a specific, proposed point descriptor above each addressable device. Shall include a specific, discrete point address that shall correspond to addresses depicted on the device layout floor plans. Drawing shall provide wire specifications, and wire tags shown on all conductors depicted on the riser diagram. All circuits shall have designations that shall correspond with those require on the control panel and floor plan drawings. End-of-line resistors (and values) shall be depicted.
  4. Control panel termination drawing(s). Shall depict internal component placement and all internal and field termination points. Drawing shall provide a detail indicating where conduit penetrations shall be made, so as to avoid conflicts with internally mounted batteries. For each additional data gathering panel, a separate control panel drawing shall be provided, which clearly indicated the designation, service and location of the control enclosure. End-of-line resistors (and values) shall be depicted.
  5. Device typical wiring diagram drawing(s) shall be provided which depict all system components, and their respective field wiring termination points. Wire type, gauge, and jacket shall also be indicated. When an addressable module is used in multiple configurations for monitoring or controlling various types of equipment, different device typical diagrams shall be provided. End-of-line resistors (and values) shall be depicted.
  6. Device layout floor plans shall be created for every area served by the alarm system. Device layout plans shall indicate accurate locations for all control and peripheral devices. Drawings shall be NO LESS THAN 1/8 INCH SCALE. All addressable devices shall be depicted with a discrete address that corresponds with that indicated on the Riser Diagram. All notification appliances shall also be provided with a circuit address that corresponds to that depicted on the Riser Diagram. If individual floors need to be segmented to accommodate the 1/8" scale requirements, KEY PLANS and BREAK-LINES shall be provided on the plans in an orderly and professional manner. End-of-line resistors (and values) shall be depicted.
  7. Proposed system Input/Output Matrix prepared as set forth in Appendix A to Section A.10.6.2.3.(9) of NFPA 72.
  8. Contained in the title block of each drawing shall be symbol legends with device counts, wire tag legends, circuit schedules for all addressable and notification appliance circuits, the project name/address, and a drawing description which corresponds to that indicated in the drawing index on the coversheet drawing. A section of each drawing title block shall be reserved for revision numbers and notes. The initial submission shall be Revision 0, with Revision A, B, or C as project modifications require.
- I. Battery calculations shall be provided on a per power supply/charger basis based on the current NYC Code, including New York City Building Code Appendix Q Section 106



and New York City Electrical Code, Section 760.41 (C). These calculations shall clearly indicate the quantity of devices (including Emergency voice communication system components), the device part numbers, the supervisory current draw, the alarm current draw, totals for all categories, and the calculated battery requirements. Battery calculations shall also reflect all control panel component, remote annunciator, and auxiliary relay current draws. Failure to provide these calculations shall be grounds for the complete rejection of the submittal package.

- J. Provide voltage drop calculations to substantiate wire size of all notification appliance circuits. Calculations shall be based on listed RMS operating current.
- K. Provide listing of horn/speaker tap settings to comply with audibility requirements of 15 dBA over 55 dBA ambient based upon vendors proposed horn/speaker.
- L. Table of contents, product data sheets, sequences of operation, battery calculations, voltage drop calculations, installation instructions, licenses, NICET certifications and B-Size (blackline) reduced shop drawings shall be provided by the alarm vendor as part of a single, spiral bound submittal book. The submittal book shall have laminated covers indicating the project address, SED number, system type, and contractor. The book shall consist of labeled dividers, and shall not exceed 9 ½" in width, and 11 ½" in height. No less than three (3) sets of submittal booklets shall be provided to the Commissioner for review and comment. Additional copies may be required at no additional cost to the project.
- M. Scale drawing sets shall be submitted along with the submittal booklets. These drawings may be either D-Size or E-Size Blue-line drawings and of a sufficient resolution to be completely read. Sets shall be bound and folded so as to not take up more than 100 square inches of space. No less than three (3) sets of scale drawing sets shall be provided to the Commissioner for review and comment. Additional copies may be required at no additional cost to the project.
- N. System Manual:
  - 1. Upon final approval of all submittal documentation and shop drawings, the Contractor shall compile and assemble, with the equipment manufacturer's assistance, a complete system manual consisting of: site specific operating and maintenance instructions, manufacturer's catalog pages of all equipment and components, all as-built wiring and conduit diagrams (both floor plan and riser types) and a manufacturer's suggested spare parts list. The Contractor shall provide one (1) copy to the Engineer for approval.
  - 2. Upon Engineer approval of the system manual, the Contractor shall provide and turn over to the Owner's representative three (3) copies of the approved system manual.

#### 1.08 WARRANTY

- A. Fire Alarm System: Provide written 1 year material warranty issued by the manufacturer upon completion of the work.



## PART 2 PRODUCTS

### 2.01 ACCEPTABLE MANUFACTURERS

- A. Basis of design: Edwards Systems Technology (EST) by UTC Fire and Security, which constitutes the type and quality of equipment to be furnished. Provide equipment manufactured by Edwards, Fire Com, Notifier, or approved equal.
- B. All products used shall be of a single manufacturer. Submission of notification appliances, auxiliary relays, or documentation from other than a single manufacturer shall not be acceptable and will be grounds for immediate disapproval without comment.
- C. The Manual and Automatic Fire Alarm System and the post fire smoke purge control panel supplied under this specification shall be microprocessor-based. All Control Panel Assemblies and connected Field Appliances shall be both designed and manufactured by the same company, and shall be tested and cross-listed as compatible to ensure that a fully functioning Life Safety System is designed and installed.

### 2.02 CIRCUITING GUIDELINES

- A. Each addressable analog loop shall be circuited so device loading is not to exceed 80% of loop capacity in order to leave for space for future devices. The loop shall have Class B operation.
- B. Where it is necessary to interface conventional initiating devices provide intelligent input modules to supervise Class B zone wiring.
- C. Addressable Monitor Modules (AMM's) shall be provided to connect to and provide individually addressed alarm initiating, supervisory or status monitoring circuits for non-addressable devices such as sprinkler waterflow alarm switches, sprinkler valve tamper switches, etc. Each Addressable Monitor Module (AMM) shall provide one (1) NFPA Standard 72, Style B, two-wire (Class B), supervised circuit. Assignment of individual AMM for alarm, supervisory or status monitor operation shall be accomplished during the programming of the FACP central processing unit (CPU) software. Each of the following types of non-addressable devices shall be provided with an individual AMM for alarm initiating, supervisory or status monitoring, typically as follows:
  - 1. Boiler Room heat detectors: Provide one (1) alarm initiating AMM for the Boiler Room heat detectors.
  - 2. Sprinkler waterflow alarm switches: Provide one (1) alarm initiating AMM for each sprinkler waterflow alarm switch.
  - 3. Sprinkler valve tamper switches: Provide one (1) supervisory AMM for each sprinkler valve tamper switch.



- D. FACP relays shall be provided to connect to and provide fire alarm system controls of associated equipment such as central station transmitter connections. Each relay shall provide at least one (1) single-pole, double-throw (SPDT) contact. Assignment of individual relays for control operation shall be accomplished during the programming of the FACP central processing unit (CPU) software. Each of the following types of equipment shall be provided with a control relay contact, typically as follows:
1. Central station agency connections: Provide five(5) contacts (system manual alarm system waterflow alarm, system smoke/heat alarm, system supervisory off-normal condition and system trouble condition) for connection to the central station agency transmitter.
- E. The FACP shall provide each of the following types of equipment and circuits associated with the fire alarm system with a manual control switch, as required by the functional requirements of these Specifications, which shall be typically as follows:
1. Central station alarm disconnect: Provide one (1) switch for central station alarm disconnect.
- F. The FACP shall provide each of the following types of alarm sounding and notification devices with NFPA Standard 72, Style Y, two-wire (Class B), supervised, alarm notification appliance circuits, typically as follows:
1. Alarm horns: Provide one (1) alarm horn circuit for each group of up to fourteen (14) direct current alarm horns, but not less than two (2) circuits per floor.
  2. Alarm strobe lights: Provide one (1) alarm light circuit for each group of twelve (12) alarm strobe lights, but not less than two (2) circuits per floor.
- G. Provide a dedicated 24VDC circuit to feed all auxiliary relays required for inductive loads. Circuits shall be supervised via an end-of-line relay and addressable input module. Auxiliary relays shall not derive their power from the starter or load being controlled.
- H. Each control or data gathering panel shall have a dedicated 20Amp-120VAC feed. An appropriate fuse cut out shall be included, wired as indicated in the NYC BC.

## 2.03 Fire Alarm Sequence of Operations

- A. The fire alarm control panel (FACP) central processing unit (CPU) shall provide for the monitoring of addressable, smoke and heat sensors, as follows:
1. Each smoke sensor shall be individually monitored for its normal output voltage level, which is a function of accumulating environmental factors such as dirt and dust. The normal output voltage level shall be digitized and transmitted to the CPU every four (4) seconds. The CPU shall maintain a moving average of these normal voltage outputs in an individual sensor average file. When smoke enters the sensor, the output voltage rises in direct proportion to the density of the smoke and the alarm condition of each smoke sensor is determined at the CPU by





comparing the current actual value with the sensor's normal average value combined with the alarm value programmed for that sensor. The alarm value may be individually programmed for each smoke sensor as sensitivity percentage (0.2%, 0.5%, 1.0%, 1.5%, 2.0%, 2.5%, 3.0% and 3.7%) above its normal average value. The sensitivity percentage for each sensor may also be programmed to change as a function of the time of day and day of week. When an individual sensor's normal average value rises to fixed, preset level due to excess accumulation of dirt and dust, a system trouble condition shall be generated and a "sensor dirty" message shall be displayed, for that sensor, on the FACP, alphanumeric, LED display and entered into the FACP historical trouble log. If the sensor is not cleaned and further accumulation occurs that would degrade proper sensor operation, a second system trouble condition shall be generated and a "sensor excessively dirty" message shall be displayed and entered into the FACP historical trouble log.

2. Each heat sensor shall be individually monitored for its normal output voltage level, which is a function the ambient air temperature. The normal output voltage level shall be digitized and transmitted to the CPU every four (4) seconds. The CPU shall maintain a moving average of these normal voltage outputs in an individual sensor average file. When the ambient air temperature rises, the output voltage rises in direct proportion to the increase in temperature and the alarm condition of each heat sensor is determined at the CPU by comparing the current actual value with the sensor's normal average value combined with the alarm value programmed for that sensor.

B. Operation of any manual fire alarm station or alarm activation of any smoke sensor, heat sensor/detector, fire suppression system alarm contact or other alarm initiating device shall automatically:

1. Sound a pulsing audible signal and flash the general alarm LED indicator at the fire alarm control panel (FACP). Pressing the alarm acknowledge key on the FACP shall silence the audible signal and continuously light the LED, during the alarm condition. Subsequent alarm conditions shall resound the audible signal and again flash the LED. Each alarm condition must be individually acknowledged.
2. Display a general alarm indication and system status summary (numbers of present alarm, supervisory and/or trouble conditions) on the FACP alphanumeric, liquid crystal display (LCD). Pressing the alarm acknowledge key shall display, for thirty (30) seconds, the individually device/circuit display, to include the "alarm" status, "device type" indication and custom label (up to forty characters and spaces), for the device reporting the alarm condition. At the end of the thirty (30) second period, the general alarm indication and system status summary shall again be displayed. The individual device display may be recalled at any time by repressing the alarm acknowledge key or until the alarm condition is reset to normal.



3. Enter the custom label for the device reporting the alarm condition with the time and date of alarm activation into the FACP historical alarm log for future recall/review.
4. Sound an audible signal at the remote zoning indicator panel. The audible signal may be silenced during the alarm condition.
5. Sound the Fire Alarm Evacuation Signal (Temporal 3) on all alarm horns throughout the building. Subsequent alarm conditions from other alarm initiating devices shall cause alarm notification appliances to reactivate.
6. Flash all alarm strobe lights throughout the building. The alarm strobe lights may be turned off during the alarm condition by operation of the FACP alarm silence switch or shall be automatically turned off after five (5) minutes of operation. Subsequent alarm conditions shall again turn on the alarm strobe lights.
7. Operate control relay contact to initiate the transmission of an alarm indication to the central station agency transmitter.

C. System Supervisory Operation

1. The following equipment or devices associated with the fire alarm system shall be supervised for normal and off-normal conditions:
  - a. Sprinkler and standpipe valve tamper switches.
2. Activation of any of the above listed supervisory devices, contacts or switches to an off-normal condition shall automatically:
  - a. Sound an audible signal and flash the supervisory service LED indicator at the fire alarm control panel (FACP). The system trouble bell shall also ring. Pressing the supervisory acknowledge key on the FACP shall silence the audible signals and continuously light the LED indicator, during the off-normal condition. Subsequent off-normal conditions shall resound the audible signals and again flash the LED. Each off-normal condition must be individually acknowledged.
  - b. Display a general supervisory indication and system status summary (numbers of alarm, supervisory and/or trouble conditions) on the FACP alphanumeric, liquid crystal display (LCD). Pressing the supervisory acknowledge key shall display, for thirty (30) seconds, the individual device/circuit display, to include the off-normal condition. At the end of the thirty (30) second period, the system status summary shall again be displayed. The individual device display may be recalled at any time by repressing the supervisory acknowledge key or until the off-normal condition is restored to normal.



- c. Enter the custom label for the device reporting the off-normal condition with the time and date of off-normal activation into the FACP historical trouble log for future recall/review.
- d. Sound an audible signal at the remote Annunciator panel. The audible signal may be silenced during the off-normal condition.
- e. Display a general trouble indication and system status summary (numbers of alarm, supervisory and/or trouble conditions) on the remote Annunciator panel's alphanumeric, liquid crystal display (LCD). Pressing the supervisory acknowledge key shall display, for thirty (30) seconds, the individual device display, to include the "off-normal" status, "device type" indication and custom label (up to forty characters and spaces for the device reporting the off-normal condition). At the end of the thirty (30) second period, the system status summary shall again be displayed. The individual device display must be recalled at any time by repressing the supervisory acknowledge key or until the off-normal condition is restored to normal.
- f. Operate a control relay contact to initiate the transmission of a supervisory indication to the central station agency transmitter.

D. System Supervision For Trouble Conditions

1. The fire alarm system wiring (except control wiring to fans, etc.) shall be electrically supervised to automatically detect and report trouble conditions to the fire alarm control panel (FACP).
2. Any opens or grounds on Addressable Monitor Module (AMM) alarm initiating, supervisory or status monitoring circuit wiring and any opens, grounds or shorts across addressable data communications, remote annunciator panel data communications and/or alarm indicating appliance (signal) circuit wiring shall initiate a system trouble condition.
3. System addressable devices shall be supervised for placement and normal operation. Removal of an addressable device or the failure of its internal electronic circuitry shall initiate a system trouble condition.
4. Operation of the central station agency alarm disconnect switch or any manual control commands that alter the system from its normal programmed standby configuration shall initiate a trouble condition.
5. The following FACP states shall initiate a system trouble condition:
  - a. Primary 120 VAC power loss.
  - b. Battery disconnect.



- c. Battery low voltage.
6. Trouble conditions shall automatically:
    - a. Sound an audible signal and flash the general system trouble LED indicator at the fire alarm control panel (FACP). The system trouble bell shall also ring. Pressing the trouble acknowledge key on the FACP shall silence the audible signals and continuously light the LED indicator, during the trouble condition. Subsequent trouble conditions shall resound the audible signals and again flash the LED. Each trouble condition must be individually acknowledged. The audible trouble signals shall also resound at programmable time intervals to remind the system operator that the trouble condition(s) still exists.
    - b. Display a general trouble indication and system status summary (numbers of alarm, supervisory and/or trouble conditions) on the FACP alphanumeric, liquid crystal display (LCD). Pressing the FACP trouble acknowledge key shall display, for thirty (30) seconds, the individual device or circuit display, to include the "trouble" status, "device/circuit type" indication and custom label (up to forty characters and spaces, for the device or circuit reporting the trouble condition. At the end of the thirty (30) second period, the general trouble indication and system status summary shall again be displayed. The individual device/circuit display may be recalled at any time by repressing the trouble acknowledge key or until the trouble condition is repaired.
    - c. Enter the circuit/device custom label with time and date of trouble condition occurrence into the FACP historical trouble log for future recall/review.
    - d. Sound an audible signal at the remote Annunciator panel. The audible signal may be silenced during the trouble condition.
    - e. Display a general trouble indication and system status summary (numbers of alarm, supervisory and/or trouble conditions) on the remote Annunciator panel's alphanumeric, liquid crystal display (LCD). Pressing the trouble acknowledge key shall display, for thirty (30) seconds, the individual device or circuit display, to include the "trouble" status, "device/circuit type" indication and custom label (up to forty characters and spaces, for the device or circuit reporting the trouble condition. At the end of the thirty (30) second period, the general trouble indication and system status summary shall again be displayed. The individual device/circuit display may be recalled at any time by repressing the trouble acknowledge key or until the trouble condition is repaired.
    - f. Operate a control relay contact to initiate the transmission of a trouble indication to the central station agency transmitter.



## 2.04 SUPPORT FOR INSTALLER AND OWNER MAINTENANCE

- A. Provide a coded one-man walk test feature. Allow audible or silent testing. Signal alarms and troubles during test. Allow receipt of alarms and programmed operations for alarms from areas not under test.
- B. Provide internal system diagnostics and maintenance user interface controls to display/report the power, communication, and general status of specific panel components, detectors, and modules.
- C. Provide loop controller diagnostics to identify common alarm, trouble, ground fault, Class A fault, and map faults. Map faults include wire changes, device type changes by location, device additions/deletions and conventional open, short, and ground conditions. Ground faults on the circuit wiring of remote module shall be identified by device address.
- D. Allow the user to display/report the condition of addressable analog detectors. Include device address, device type, percent obscuration, and maintenance indicator. The maintenance indicator shall provide the user with a measure of contamination of a device upon which cleaning decisions can confidently be made.
- E. Allow the user to report history for alarm, supervisory, monitor, trouble, smoke verification, watchdog, and restore activity. Include Facility Name, Licensee, Project Program Compilation date, Compiler Version, Project Revision Number, and the time and date of the History Report.
- F. Allow the user to disable/enable devices, zones, actions, timers and sequences. Protect the disable function with a password.
- G. Allow the user to activate/restore outputs, actions, sequences, and simulate detector smoke levels.
- H. Allow the service user to enter time and date, reconfigure an external port for download programming, initiate auto programming and change passwords. Protect these functions with a password.
- I. THE END-USER SHALL RETAIN COMPLETE RIGHTS AND OWNERSHIP TO ALL SOFTWARE RUNNING IN THE SYSTEM. The alarm equipment vendor shall provide useable hard and soft copies of the software database to the End-User at the end of the warranty period. The database provided shall be useable by any authorized and certified distributor of the product line, and shall include all applicable passwords necessary for total and unrestricted use and modification of the database. The Commissioner shall define the extent of hardcopy database documentation to be provided.



## 2.05 MATERIALS

### A. Operating Instruction/Riser Diagram Holders

Shall be red painted, steel, frame holder with clear, Acrylic window with nine inch by twelve inch (9" x 12") dimensions. One (1) holder shall be provided for the fire alarm control panel (FACP)/system operating instructions and one (1) holder shall be provided for a reduced copy (8-1/2" x 11") of the fire alarm system riser diagram. The operating instruction and riser diagram holders shall be mounted adjacent to the fire alarm control panel (FACP).

### B. Fire Alarm System Lockable Disconnect Switch

1. The Contractor shall provide an individual cartridge type lockable disconnect, a removable, solid copper, neutral bar in fuse gap.
2. Lockable fused disconnect shall be provided with silver sand fuses, current limiting type with an interrupting capacity rating of 200,000 amps (r.m.s. symmetrical). The size of the fuses and number of poles shall be as recommended by Fire Alarm System Vendor. Switch shall be suitable for use at service switch.
3. The disconnect switch shall bear an engraved white-core phenolic or bakelite identification nameplate stating in minimum one-quarter inch (1/4") high white letters on a red background "FIRE ALARM FUSED CUT-OUT".
4. Contractor shall bring single phase three (3) wire plus ground, 120/208 volt service to the fused disconnect switch.. The feeders shall be tapped off the main building service ahead of the main service switch but after the Current Transformers.
5. Provide for fire alarm system and central office connection panel.
6. Switch shall be Eaton NYC approved Fire Alarm disconnect switch or approved equal.
7. Provide Class J adaptor kit and set of Class J fuses where required to satisfy short circuit rating equipment supplied by lockable disconnect switch.

### C. Notification appliance devices which include a strobe light shall be 75 candela per UL 1971.

### D. Central Office Connection Panel

1. Contractor shall provide Central Office Connection Panel from a licensed, FDNY approved, central station monitoring company. Include one (1) year of monitoring services.



2. Contractor shall include all FDNY required monitoring, but not less than the points indicated on the documents for specified fire alarm system.
3. All equipment shall be as approved by FDNY. Start of one (1) year monitoring services shall be from FDNY approval of fire alarm system.

### **PART 3 EXECUTION**

#### **3.01 DELIVERY, STORAGE AND HANDLING**

- A. The Contractor shall receive and store all material and equipment necessary to the completion of the Project.
- B. Store fire alarm equipment in a clean, dry place. Protect from weather, dirt, fumes, water, construction debris, and physical damage.
- C. Handle fire alarm equipment carefully to prevent damage, breaking, and scoring. Do not install damaged equipment or components; replace with new.

#### **3.02 INSTALLATION**

- A. The entire system shall be installed in a workmanlike manner, in accordance with approved manufacturer's wiring diagrams. The Contractor shall furnish all conduit, wiring, outlet boxes, junction boxes, cabinets, fused cut-outs and similar devices necessary for the complete installation. The installing contractor or fire alarm equipment vendor shall have no less than two (2) NICET Level II fire alarm technicians and a project manager dedicated to this project.
- B. Manufacturer's Instructions
  1. In addition to the requirements of these Specifications, comply with manufacturer's instructions and recommendations for all phases of the Work.
- C. Fire Alarm Control Panel (FACP) Software Programming
  1. Subsequent to equipment approval and prior to software programming of the FACP, a representative of the equipment manufacturer shall meet with a representative of the Owner to establish a schedule of the alarm codes to be assigned to each alarm initiating device. The alarm codes shall be three (3) digit alarm codes indicating the floor of alarm initiation, the area of alarm initiation and the type of alarm initiating device reporting the alarm condition.
  2. Subsequent to equipment approval and prior to software programming of the FACP, a representative of the equipment manufacturer shall meet with a representative of the Owner to establish a schedule of the custom labels for each addressable device to be displayed on the alphanumeric, liquid crystal display (LCD) of the FACP.



3. The end-user shall retain complete rights and ownership to all software running in the system at all times. The fire alarm equipment vendor shall provide useable hard and soft copies of the software database to the End-User at the time of final system acceptance. The database provided shall be useable by any authorized and certified distributor of the product line, and shall include all applicable passwords necessary for total and unrestricted use and modification of the database. The extend of hardcopy database documentation to be provided shall be defined by the Commissioner prior to final system acceptance.

D. Manual Fire Alarm Stations

1. The Contractor shall furnish and install manual fire alarm stations, where shown on the Drawings.
2. Manual fire alarm stations shall be mounted with their operating handles four feet above the finished floor (4'-0" AFF).
3. When manual fire alarm stations are to be surface mounted, matching red backboxes shall be provided by the equipment manufacturer.

E. Smoke Detectors

1. The Contractor shall furnish and install area smoke detectors at locations where shown on the Drawings or called for in the Specifications.
2. These smoke detectors shall be surface mounted at designated locations.
3. In general, these smoke detectors will be mounted on ceilings. The Contractor shall furnish and install a suitable surface or semi-flush backbox to which the sensor will be mounted.
4. Smoke detectors shall be installed no closer than five feet (5.0') from air registers, or within 12" of any wall.
5. Do not install smoke detector heads until the Work (including cleaning) of all trades in the building has been completed. Protect all installed smoke detector heads from airborne dust and debris, with plastic bags, until the final acceptance test. Any sensor cleaning costs, necessitated by failure to protect the smoke detector heads, shall be the responsibility of the Contractor.
6. Smoke detectors shall be installed in accordance with NFPA-72 as modified by NYC Building Code.

F. Visual Alarm Notification Devices (Alarm Strobe Lights and Combination Assemblies)

1. The Contractor shall furnish and install visual alarm notification devices, where shown on the Drawings.





2. The center line of an alarm strobe light and/or the center line of the alarm strobe light component of an audio/visual combination assembly shall be located eighty inches above the finished floor (80" AFF). Where ceilings prevent installation at this height, centerline of device shall be located six (6") inches below ceiling.

G. Central Office Connection Panel

1. Installation shall include all required power, alarm, and telephone system wiring for complete system in accordance with service provider and **FDNY** requirements.

H. Wiring

1. All wiring shall be:
  - a. Of the size and configuration type commended by the manufacturer for each type of circuit in the system and meet the requirements below listed in b. through h.
  - b. Copper conductors only. Aluminum conductors or copper clad, plated or coated aluminum conductors shall not be acceptable.
  - c. Color-coded throughout.
  - d. In conformance with Section 4000-06 of the Rules of the City of New York.
  - e. Approved by the New York City Fire Department and New York City Building Department.
  - f. A minimum of No. 12 A.W.G. for power wiring (above 75 volts) and No. 16 A.W.G. for low voltage wiring (75 volts or less), unless otherwise noted.
  - g. All low voltage wiring (75 volts and less) shall be Type FPLP, 15 mil insulation, 150°C, colored red, 25 mil overall jacket, cable printing per UL1424, labeled "Classified NYC Cert. Fire Alarm Cable".
  - h. All power conductors (above 75 volts) shall be TFFN, TFN, THHN, THWN, or FEP minimum 600 volts, 90°C.
2. All wires shall test free from grounds and crosses between conductors.
3. A ground wire equal in size to the largest conductor used on the system, but not less than No. 10 A.W.G., attached to the fire alarm control panel (FACP) and shall be installed in 3/4" conduit and securely connected to the grounding bus or terminal in each box or cabinet it enters. The ground wire shall be routed with the supply conductors from the fused cutout. Provide a grounding electrode



- conductor not less than #8 AWG to the fused cutout and install per New York City electric code.
4. Circuit wiring from the FACP to the smoke purge control panel (SPCP) shall be a minimum of as follows:
    - a. Data communications circuit wiring: Two (2) cables, each with two (2) No. 16 A.W.G., twisted and shielded, copper conductors.
    - b. 24 V DC, power circuit wiring: Two (2) No. 14 A. W. G. copper conductors.
  5. Circuit wiring from the FACP to the remote annunciator panel shall be a minimum of as follows:
    - a. Data communications circuit wiring: Two (2) cables, each composed of two (2) No. 16 A.W.G., twisted and shielded, copper conductors.
    - b. 24 VDC, power circuit wiring: Two (2) No. 14 A.W.G., copper conductors.
  6. Circuit wiring from the FACP to the system peripheral equipment shall be a minimum of as follows:
    - a. Each multiple addressable peripherals network data communications circuit: Two (2) No. 16 A.W.G., twisted and shielded, copper conductors.
    - b. Each duct smoke sensor/Addressable Module 24 VDC power circuit: Two (2) No. 14 A.W.G., copper conductors.
    - c. Each alarm horn circuit: Two (2) No. 12 A.W.G., copper conductors. Minimum of two (2) circuits per floor. Devices shall be connected to alternate circuits.
    - d. Each alarm strobe light circuit: Two (2) No. 12 A.W.G., copper conductors. Minimum of two (2) circuits per floor. Devices shall be connected to alternate circuits.
  7. Circuit wiring from Addressable Modules to the system peripheral equipment shall be a minimum of as follows:
    - a. Each alarm initiating, supervisory or status monitoring circuit from an Addressable Monitor Module (AMM): Two (2) No. 16 A.W.G., copper conductors.
    - b. Each control circuit from an Addressable Control Module (ACM): Two (2) No. 12 A.W.G., copper conductors.



8. Circuit wiring from the fire alarm control panel (FACP) to the central station transmitter location shall be a minimum of fourteen (14) No. 14 A.W.G., copper conductors.
- I. Conduit and Raceways
    1. All wiring shall be mechanically protected when installed exposed and in areas with no drop ceiling and when penetrating fire walls and floor slabs. All wiring in mechanical rooms, elevator equipment rooms, loading dock and garages shall be run in conduit. Only rigid heavy wall conduit, properly sized to New York City Electrical Code requirements, shall be used to provide said mechanical protection, and for all system power (over 75 volts) wiring.
    2. All penetrations of floor slabs and fire walls shall be fire stopped in accordance with all local fire codes.
    3. Fire alarm system terminal and junction locations shall be identified in accordance with NFPA Standard 70, Section 760-10. Terminal and junction boxes shall be painted red and stenciled in white letters "FIRE ALARM".
    4. Electrical conduits shall enter only at the sides or bottom of the fire alarm control panel (FACP).
    5. Minimum size conduit shall be  $\frac{3}{4}$ ".
  - J. End of Line Resistors shall be furnished as required for mounting as directed by the manufacturer. Devices containing end-of-line resistors shall be appropriately labeled. Devices should be labeled so removal of the device is not required to identify the EOL device.
  - K. All addressable modules shall be mounted within 36 inches of the monitored or controlled point of termination. This shall include, but is not necessarily limited to, fan shutdown, elevator recall, shunt trip, sprinkler status points, or door release. Label all addressable modules as to their function.
  - L. New door holders shall derive their 24VAC/VDC power from a separate power supply housed in a dedicated, metal enclosure. The power supply shall have a 120VAC feed, and is to be centrally located to serve door holders on a per floor or area basis. All existing door holders shall be connected to new FACP. E.C. shall extend all existing wiring in order to make this work. Locations and quantities of door holder power supplies shall be referenced and submitted in the submission package for approval by the Commissioner.
  - M. Alarm system wiring shall not co-mingle with any other system wiring in the facility. Conduits shall not be shared under any circumstance. Only when fire alarm wiring enters the enclosure of a monitored or controlled system will co-habitation be permitted (i.e. at fan starters or elevator controllers).



- N. Auxiliary relays shall be appropriately labeled to indicate "FIRE ALARM SYSTEM" and their specific function (i.e. FAN S-1 SHUTDOWN).
- O. All fire alarm wiring shall be continuous and unspliced. Terminations shall only occur at fire alarm devices or control panel enclosures under terminal screws. All other splicing methods are specifically disallowed (i.e. plastic wirenuts).
- P. All alarm wiring shall be installed using a dedicated system of supports (i.e. bridle rings). Fire alarm wiring shall not be bundled or strapped to existing conduit, pipe or wire in the facility. THIS WILL BE FIELD INSPECTED BY THE COMMISSIONER.
- Q. All alarm devices shall be accessible for periodic maintenance. Should a device location indicated on the Contract Drawings not meet this requirement, it shall be the responsibility of the installing contractor to bring it, in writing, to the attention of the Commissioner. Failure to bring such issues to the attention of the Commissioner shall be the exclusive liability of the installing Electrical Contractor.
- R. Provide fire alarm control panel (FACP, system operating instructions, framed under clear Lexan or glass and mounted adjacent to the FACP).
- S. Provide a reduced copy (8-1/2" x 11") of the fire alarm system riser diagram, framed under clear Lexan or glass and mounted adjacent to the fire alarm control panel (FACP).
- T. The fire alarm control panel (FACP) shall be arranged to receive power from three-wire, 30 Ampere, 120/208 volt, 60 cycle alternating current supply through fused cut-out. All low voltage operation shall be provided from the FACP.
- U. Fan shutdown and smoke purge fan control wiring shall be terminated by this contractor in starters or control panels as indicated on approved control wiring diagrams provided by mechanical contractor.

### 3.03 CLEAN UP

- A. Upon completion of the installation, all debris created by the installation shall be removed from the premises or disposed of as directed by the Owner.

### 3.04 FIELD QUALITY CONTROL

- A. The system shall be installed and fully tested under the supervision of a trained manufacturer's representative. The system shall be demonstrated to perform all of the function as specified.
- B. The installing contractor or fire alarm equipment vendor shall have no less than two (2) NICET Level II fire alarm technicians dedicated to this project.
- C. The Installing Contract and the Alarm System Vendor shall, upon the request of the Commissioner or End-User, attend any and all project meetings for the purpose of accurately determining progress.



- D. It shall be the responsibility of the installing contractor to assure that construction debris does not adversely affect any sensing devices installed as part of this project. Should it be deemed necessary by the Commissioner, End-User or AHJ, the installing contractor shall be responsible for the cleaning of all smoke detectors prior to final acceptance.

### 3.05 TESTS

- A. The alarm system vendor shall test the system in accordance with the manufacturer's requirements and NFPA 72 as amended by the NYC Building Code. The vendor shall provide completed reports to the Commissioner for review and approval prior to final acceptance.
- B. Each individual system operation on a circuit by circuit basis shall be tested for its complete operation. The procedure for testing the entire alarm system shall be set forth with the consent of the code enforcement official, the Engineer and the manufacturer.
- C. During the final acceptance test:
1. Every manual fire alarm station shall be tested.
  2. Every smoke sensor shall be tested using a calibrated sensitivity test method.
  3. Every heat sensor/detector shall be tested using a controllable heat source such as a blower type hair dryer.
  4. All other alarm initiating devices/connected panels shall be activated to their alarm state.
  5. The sprinkler system waterflow alarm switches shall be tested by flowing water.
  6. All other supervised devices/connected panels shall be activated to their off-normal position or state.
  7. Every alarm horn zone shall be sounded.
  8. Every alarm strobe zone shall be tested.
  9. Every system control function shall be tested for its proper operation.
  10. All supervised circuits shall be opened at two (2) locations to test for proper supervision.
- D. Test Reports: Submit reports of manufacturers field testing and final acceptance test by authorities having jurisdiction.
- E. Upon successful completion of all final acceptance tests, the Contractor's and Manufacturer's representatives shall each author and sign a letter confirming the



successful completion of testing. Two (2) copies of each letter shall be forwarded to the Owner's representative, the Commissioner and the local Code enforcement official.

- F. All final acceptance testing shall be done at a time convenient to the local Code enforcement official and the Owner's representatives and all testing costs shall be born by the Contractor as part of this Contract.
- G. All objections noted as a result of the New York City Fire Department inspection shall be corrected and self-certified in accordance with New York City Building and Fire Code requirements by this Contractor.

### 3.06 INSTRUCTION OF PERSONNEL

- A. The Contractor shall provide the services of a trained manufacturer's technical representative for two (2) periods of four (4) hours each, during normal business hours, to instruct the Owner's designated personnel on the operation and maintenance of the fire alarm system.

### 3.07 DOCUMENTATION

- A. The contractor shall compile and provide to the owners three (3) complete manual on the completed system to include SITE SPECIFIC operating and maintenance instruction, catalog cuts of all equipment and components, as-built wiring diagrams and a manufacturer's suggested spare parts list.
- B. In addition to the above manuals, the Electrical Contractor shall provide the services of the manufacturer's trained representative for two (2) separate calendar days for a period of four (4) hours per day to instruct the owners' designated personnel on the operation and maintenance of the entire system.
- C. As-built drawings shall consist of the following:
  - 1. Complete revision of all previously submitted drawings.
  - 2. Point-to-point depiction of all device wiring on the device layout floor plans.
  - 3. One (1) set of B-size, laminated as-built drawings.
  - 4. Two (2) sets of 30"x42"inch 1/16"=1' scale drawing showing all points of alarm. One set shall be submitted with the close-out documents. Second set shall be mounted in frame with a lexan cover. These drawing must be submitted to Commissioner for approval.
- D. Turnover of all software database hard/soft copies shall be required. This shall include all possible programming software logs, diskettes or CDs containing exported project files, hard copies of all device maps, the revision number of the version of programming utility used, and all required passwords. The turnover of all database information shall occur



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prior to the end of the One (1) year warranty period (or period as amended earlier in this specification).

**3.08 SERVICE**

- A. The equipment manufacturer shall make available a fully equipped service organization, capable of guaranteeing an on-site service response time within eight (8) hours to a service request call. Said service shall be available twenty-four (24) hours per day and seven (7) days per week.

**END OF SECTION 283111**



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

November 29, 2016

**ADDENDUM No. # 1**

FOR FURNISHING ALL LABOR AND MATERIAL NECESSARY AND REQUIRED FOR:

**PWD99WNY1**

**CENTER FOR THE WOMEN OF NEW YORK**

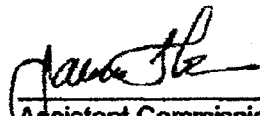
This addendum is issued for the purpose of amending the requirements of the Bid and Contract Documents and is hereby made a part of said Bid and Contract Documents to the same extent as though it were originally included therein.

The bidder is advised that the items listed below apply to the project:

1. **PBQ RESPONSES:**


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) 391-1016, or by fax at (718) 391-2615.

  
Assistant Commissioner *James Thorsen for*  
Sergio Silveira  
Human Services/DCAS/OneNYC

SIBA CONTRACTING CORP

Name of Bidder

By: Juan C. Medina / Project Manager 

**DDC PROJECT #:** PWD99WNY1

**PROJECT NAME:** CENTER FOR THE WOMEN OF NEW YORK

**ATTACHMENT A - BIDDERS QUESTIONS AND DDC RESPONSES**

<i>No.</i>	<i>Bidders Questions</i>	<i>DDC Responses</i>
1	On Drawing # DM-103, there is note #28 mentioned on left side of the attic, but there is NO detail what #28 refers to. Please provide the detail of the NOTE #28.	Drawing DM-103 note 28 is a typographical error and should be read as No. 20.



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

January 6, 2017

**ADDENDUM No. # 2**

FOR FURNISHING ALL LABOR AND MATERIAL NECESSARY AND REQUIRED FOR:

**PWD99WNY1**

**CENTER FOR THE WOMEN OF NEW YORK**

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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.

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The bidder is advised that the items listed below apply to the project:

1. NEW BID OPENING DATE:  
**FEBRUARY 2, 2017; 2PM**
  
2. RESPONSES TO PBQ(S):  
**ATTACHMENT 1**

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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) 391-1016, or by fax at (718) 391-2627.

  
Assistant Commissioner  
Sergio Silveira  
Human Services/DCAS/OneNYC

SIBA CONTRACTING CORP

Name of Bidder

By: PRESIDENT 

**DDC PROJECT #:** PWD99WNY1

**PROJECT NAME:** CENTER FOR THE WOMEN OF NEW YORK

**ATTACHMENT A - BIDDERS QUESTIONS AND DDC RESPONSES**

No.	Bidders Questions	DDC Responses
1	On drawing # DM-103, there is note #28 mentioned on left side of the attic, but there is NO detail what # 28 refers to. Please provide the detail of the Note #28	Drawing DM-103 note #28 is a typographical error and should read as No. 20.
2	Under Plan Key Notes #23 on drawing A-104, refers to drawing P-330, which doesn't exist. The contractors want to confirm if this was a typo or if there is a missing drawing.	We confirm that there is no sheet P-330. There is a typo on the note which should read P-300 instead of P-330.
3	The 11b SDC listed on 104419-Fire Extinguishers section does not meet the rating for the required fire extinguisher. The minimum rating is a 2A rated fire extinguisher which can be a 5LB ABC.	The fire extinguisher should be the 2A rated 5LB ABC minimum.

FMS ID: PWD99WNY1



Department of  
Design and  
Construction

**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](http://www.nyc.gov/buildnyc)

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

CONTRACT NO. 1 GENERAL CONSTRUCTION WORK

**Center for the Women of New York  
Renovation**

LOCATION: 207 Totten Avenue  
BOROUGH: Queens, 11359  
CITY OF NEW YORK

Contractor

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

Entered in the Comptroller's Office

First Assistant Bookkeeper

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

